

Reproductive Health On the Ground

Meeting women's needs in southern Rajasthan



*Report of a three-year experience of understanding change
in health seeking behaviour*

Kirti Iyengar
Sharad D. Iyengar

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39, Fatehpura, Udaipur 313004, India

December 2000

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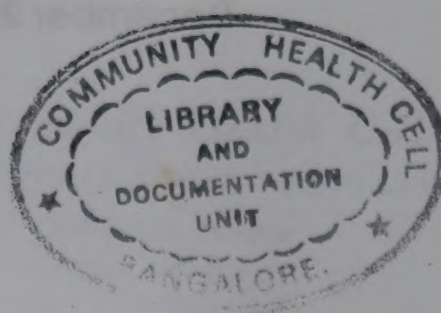
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Preface

In 1997, a group of public health professionals, clinicians and managers established a not-for-profit society called "Action Research & Training for Health" (ARTH) in Udaipur, with the aim of helping rural communities access health care as per their needs and capacity. The group decided to pursue a research and training agenda of adding value to health policies and programmes, so as to make them more effective, efficient and sensitive to community needs. To effectively play the role of a specialised research and training agency, ARTH decided to set up a mechanism for continuous learning from the community. This was the rationale behind establishing a field health service and surveillance programme in a rural area of southern Rajasthan. The field programme began in a cluster of 10 villages (population 11,500) in Kumbhalgarh block of Rajsamand district. After two years, it expanded to cover a total of twenty-seven villages (population 30,000) of the area.

Rajsamand is a district of southern Rajasthan. Its population is 85 per cent rural and sex ratio is 991 females per 1000 males (1991 census). Kumbhalgarh is one of its seven blocks. In 1997 when ARTH began work, Kumbhalgarh had an estimated population of 133,000, which included 26 per cent tribal and 10 per cent scheduled caste communities. Literacy rates were 38 and 8 per cent among males and females respectively -- these were lower than the district average. Widespread poverty was reflected in the very basic quality of housing (mud and stone dwellings), lack of electricity beyond the main village, unreliable water supply and sanitation, and a poor road network. Access to rational health care was poor for the bulk of the population, especially women. It was therefore not surprising that a complex set of traditional beliefs and practices continued to guide the health practices of local inhabitants.

In this setting, ARTH commenced field operations by initiating a study of the health-seeking behaviour of women and adolescents. A baseline survey was carried out from October 1997 to February 1998. Apart from recording the socio-demographic profile of women, it generated salient information on the extent to which their reproductive health needs were being met. A set of community outreach and clinic-based interventions was then introduced, to bring about a positive change in reproductive health status. We simultaneously initiated efforts to learn from our clients and the community through qualitative studies. In 2000, we undertook a follow up end line survey to assess the effectiveness of some of our interventions in improving care seeking among women. The first three years of work have deepened our understanding of issues that affect the health and lives of women of the area -- these include women's family and social autonomy, their perceptions of health providers, the role of men, effects of drought and poverty, as well as access, quality and cost of health care.

In section I of this report, we have presented findings on the reproductive health situation and health-seeking behaviour. Chapter 1 lists data sources and methodology, while chapter 2 describes the socio-demographic, village and household profile of the field area. Chapter 3

touches on marriage, fertility and reproductive wastage, while the focus of chapter 4 is on unmet need and perceptions towards contraception. We have discussed societal and systemic dimensions of maternal mortality and morbidity, the utilisation of maternal health services and men's participation, in chapter 5. How women deal with unwanted pregnancy in a situation in which access to contraception and safe abortion services is poor, is the focus of chapter 6. Chapter 7 deals with gynaecological morbidity -- its correlates, women's perceptions and treatment sought; while chapter 8 touches on the problem of childlessness. We have gained a few insights into the relationship between social issues such as customary remarriage (nata) and domestic violence, and women's reproductive health -- these have been described in chapter 9.

Key interventions for meeting women's reproductive health needs in Kumbhalgarh have been listed below. Our experience in testing them has been presented in the section II of this report.

- ✓ A reproductive and child health clinic in a central village
- ✓ Introduction of the copper-T 380A as a reversible alternative to female sterilization
- ✓ First trimester safe abortion services
- ✓ Maternal health care, including 24-hour delivery by nurse-midwives
- ✓ Development and use of interactive communication material for illiterate women
- ✓ Community based education and distribution of reproductive health products by village volunteers
- ✓ Life skills education for adolescent boys
- ✓ Enhancing men's participation in reproductive health

We feel that our learning might be of relevance to those who are attempting to define in practical terms, the implications of delivering reproductive health services in rural Rajasthan and other similar areas of India. Some of these implications point to the need for changes in policy and programme planning. Meanwhile, our field programme and documentation are continuing. We therefore welcome critical comments and suggestions for improving them.

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Udaipur, Rajasthan, India
December 2000

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A fellowship grant from Mac Arthur Foundation, New Delhi, to the first author supported the studies and a large part of interventions featured in this monograph. From April 1999 onwards, Sir Ratan Tata Trust, Mumbai, supported an intervention to promote safe motherhood through community midwives. We are grateful to these organisations for making it possible for us to combine a field research and service agenda for women's health in an interior area of Rajasthan.

The three years of community health work that informs this report represents the combined effort of a group of dedicated persons whose contribution is gratefully acknowledged. Our two nurse-midwives, Ajitha Ravindran and Sheenamol Gopalan, assisted by clinic attendants Khamani Bai and Mohini Bai, worked day and night to provide clinical services, especially those related to safe motherhood. Monica Sharma and Virendra Suhalka coordinated the outreach programme by training and supervising field workers and volunteers. They gathered feedback from the community and maintained our information systems. Dolaram Bhil and Tejram Jat implemented educational activities for men and adolescent boys. At Udaipur, Mohanlal Jhalora procured drugs and supplies, and followed up women referred to the city hospital for maternal complications.

We would like to record our appreciation of the doctors who contributed their time for providing services and carrying out training in Kumbhalgarh - Renu Bohra, Kamal Mehra, Vinaya Pendse and Reena Mittal. Pavitra Mohan and Sanjana Brahmavar were additionally involved in implementing the end line study and educating adolescent boys and girls. We are grateful to doctors in Udaipur who subsidised services for patients referred by us - ML Gupta provided laboratory services, while Narayan Pendse and Avinash Sharma carried out ultrasound examinations. Lakshmi Murthy, a communications designer, made a major contribution to the development of locally appropriate materials for communicating with illiterate rural women.

The staff of government health centres of Kumbhalgarh block supported our efforts with the help of a continuous supply of contraceptives and medicines. We wish to acknowledge the supportive role of officers of the Health & Family Welfare Department -- KL Kumath (CMHO) & Tarun Choudhury (DCMHO) of Rajsamand district, and RB Dikshit (CMHO), Motilal Jain (RCHO) & Banwarilal Mishra (DCMHO) of Udaipur district, who made sure that our activities proceeded smoothly and supplies remained uninterrupted as far as possible.

Over forty village-level volunteers helped women achieve greater control over their health and fertility, and mobilised the community around reproductive health and rights issues. Members of gram panchayats actively supported efforts to involve men in reproductive and child health care. At the centre of our work are the women and adolescents of Kumbhalgarh, who took time off from a life of daily struggle, to patiently discuss intimate aspects of their lives, and opted for change on being given a choice. This report would not have been possible without their active participation. To them, we dedicate this document.

Section I

Understanding the Reproductive Health Situation

Data Sources

Our learning on reproductive health situation and health-seeking behaviour has been derived from following sources.

1.1 Surveys

Baseline study

Objectives: A baseline survey was conducted from October 1997 to February 1998. Its objectives were:

- To record baseline data about socio-demographic profile of 10 project villages
- To map the availability of TBAs, anganwadi workers, literacy volunteers, women's groups and health providers in project villages
- To understand reproductive health situation and health seeking behaviour of women related to their reproductive health needs

Study area: Within Kumbhalgarh tehsil, a cluster of 10 revenue villages (including 130 hamlets) located to the south of the headquarters at Kelwara, constituted the sampling frame. The villages were selected purposively for outreach activities, based on higher proportion of tribal population as compared to the average for the block.

Sampling and methodology: The survey was carried out in 2 phases.

First phase (census and household socio-demographic profile): The study was designed as a quantitative cross sectional village and household survey. For developing indicators and questionnaires, analysis indicators were first developed, based on which three questionnaires, a household questionnaire, a women's entry questionnaire and a village questionnaire, were developed, pre-tested and revised.

Second phase (health-seeking behaviour of women and adolescents): For this quantitative cross sectional household interview of women, women aged 15 to 49 years as enumerated by the census constituted the sampling frame. Simple random samples were drawn for the following four categories of respondents:

- ❖ Ever married women with 1 to 2 living children
- ❖ Recently delivered women (women who had delivered within the past 2 years)
- ❖ Adolescent girls aged 15 to 19 years
- ❖ Childless women (married women with no living children)

Questionnaires were developed and pre-tested for each respondent category. Each questionnaire had questions in Hindi as well as in Mewari (the local dialect). The following information was collected from each category of respondent:

i. *Ever-married women with 1-2 living children:* This group of women was selected in order to understand fertility intentions, family planning knowledge and use among women likely to have a need for spacing. Three hundred and eighty five women were randomly selected from the census of which 272 women could be contacted. Incomplete forms had to be discarded, after which 233 (60.5%) forms remained for analysis.

ii. *Recently delivered women:* Information regarding health-seeking behaviour during antenatal, natal and postnatal periods were collected from this group. Information on fertility and neonatal care was also collected from this group. The random sample comprised 148 women who had delivered within 24 months before the date of survey. Up to 20% of sampled women could not be contacted despite a repeat visit on the next day, as a result of which data could be collected from 118 (79.7%) women. Sample distribution across villages was in conformity with the population of each village.

iii. *Adolescent girls:* Information regarding marriage, menstrual practices, health needs and knowledge regarding teenage pregnancy and family planning was collected from adolescent girls aged 15 to 19 years. The random sample comprised 152 girls aged 15-19 years. Contact could be made only with 112 girls, incomplete forms had to be discarded, and finally 98 forms (65%) were available for analysis.

iv. *Childless women:* The sample comprised of all currently married women with no living children. On contacting some were found to be pregnant, and finally 60 childless women were interviewed. This group was selected to understand health care utilisation for childlessness.

Field logistics: A team of 6 female investigators (graduates or postgraduates in social sciences) and 2 local male field workers (with high school education) carried out data collection for first phase. The household interview covered all households of these 10 villages. For second phase, female investigators carried out interviews after classroom and field training. Two local field workers assisted them in locating respondents. The project co-ordinator and a supervisor supervised the survey. Completed questionnaires were sent to the ARTH office in Udaipur. Initial processing consisted of office editing, coding, and data entry using the Epi-Info5 statistical package. Data was analysed using Epi-Info. Village questionnaire data was analysed manually.

End-line study

Objectives: Our three-year experience generated impressions about what influences the lives and health of women in the area. To better understand these issues as well as to assess the effectiveness of our programme in changing health-seeking behaviour, we undertook an end line survey with the following objectives:

- To assess utilisation of reproductive health services and health seeking behaviour among women of the project area
- To study current fertility preferences and contraceptive practices
- To assess major constraints faced by women in accessing reproductive health care
- To study how husbands' knowledge, beliefs and health related behaviour influence the couple's reproductive health

This cross sectional survey was carried out from April to June 2000. We made some changes in the end-line survey based on our better understanding of the area over 3 years. These included the following:

- With better command of the local dialect (Mewari), we introduced typical phrases for health problems and needs to make the questions more accurate.
- During the baseline study, investigators had found it difficult to build good rapport with adolescent girls, since families looked upon them with suspicion. Meanwhile we had developed some understanding of adolescent girls' health-seeking behaviour through clinic based surveillance and village meetings, while the survey of currently married and recently delivered women included many married adolescent girls. We therefore decided not to conduct a separate quantitative survey of adolescent girls.
- Since this project had carried out men's education through group and individual education, we decided to also survey men.

Sampling and methodology: Currently married women aged 15-49 constituted the sampling frame. They were divided into two groups - those who had delivered within the past 24 months ("recently delivered women" or RDW) and those who had not delivered over the last two years (referred to simply as "currently married women" or CMW). We used cluster sampling to identify the required number of women among the two groups. One hamlet (a collection of houses organised by caste group) formed the 'cluster'. The list of 130 hamlets of 10 villages was divided into two groups - scheduled caste and tribe hamlets (SC/ST hamlets) and other caste (OT hamlets). From each group, hamlets were listed in random order along with the number of households in each. Using a calculation of 5 inhabitants per household, all hamlets were included in random sequence so as to cover a population of about 3500 in each group. All recently delivered and currently married women residing in the sampled hamlets were enumerated.

Following 3 types of respondents were interviewed:

- Recently delivered women:* Information regarding care-seeking and practices during the antenatal, delivery and postnatal periods was collected from this group. Information relating to fertility, family planning and newborn care was also collected. We were able to interview 324 RDW and analysed data on 323 forms.
- Currently married women:* Information relating to fertility, reproductive intentions and family planning was collected in greater detail from this group. Interviews were completed for 513 CMW and data was analysed for 507 CMW after discarding a few forms that did not meet enrolment criteria.
- Husbands of recently delivered women:* Attempts were made to contact husbands of all listed RDW, However, only 229 men could be interviewed. The low enrolment rate was greatly because 20% men had migrated to cities or other places in search of work. Data was analysed for 228 complete forms.

Field Logistics: The survey team consisted of 6 female and 2 male investigators accompanied by a male and a female field supervisor. Investigators were trained (classroom sessions, mock interviews & field practice in a non-sampled area) over 6 days in house listing and interviewing. Supervisors were given additional training in supervision, field checks and coding. Fieldwork was carried out in April - June 2000. Mapping and house-listing was carried out in each selected hamlet by male field investigators, followed by questionnaire interviews. Women investigators interviewed the women respondents, while male investigators interviewed men. Investigators explained the purpose of the study and took informed verbal consent from each respondent. Two supervisors accompanied the team while professional public health staff made periodic visits. An office-coder additionally monitored

data quality at the ARTH office in Udaipur. Completed questionnaires were sent to the ARTH office in Udaipur. Initial processing consisted of office editing, coding, and data entry using the Epi-Info 6.4 statistical package. A single data entry operator carried out data entry in June-July 2000. Data was analysed using Epi-Info.

1.2. Qualitative studies

Focus Group Discussions (FGDs)

A series of 10 FGDs was carried out between February and June 1998 with village women who were invited to ARTH's clinic-cum field training centre at Kuncholi. The clinic cum training centre premises was intended to provide women with an atmosphere where they could be free from distractions and persons trying to overhear them. It also provided an opportunity for women from different villages to come together for a discussion. For each FGD, an obstetrician-gynaecologist working in the community and a communications designer acted as facilitator while a postgraduate social worker graduate acted as recorder. FGD guides were prepared for the selected topics.

Review sessions with volunteers and TBAs

At the village level, ARTH networked two types of women – 18 village volunteers (outgoing young tribal women willing to volunteer) and 36 existing traditional birth attendants (TBAs). Early in the project, these women were utilised as sources of information. During group discussions conducted with these volunteers and TBAs, an attempt was made to continuously learn and document the perceptions and practices of the community. Our ongoing relationship with the group had allowed a very good rapport to be built. We could therefore explore sensitive issues such as abortion and domestic violence. At the same time we were conscious of the limitation of this group in terms of their increasing alignment to the ideology of the organisation.

In-depth interviews with adolescent boys and their fathers

A qualitative study of 30 adolescent boys (equally divided among SC-ST and other caste groups) and their fathers was conducted in year 2000. The purpose of this study was to understand the values, perceptions and behaviour of adolescent boys in matters related to reproductive health, gender roles, addictions, life skills, career plans etc. Two villages of the area were selected -- one was a project village while the other was a village where project activities had only recently been introduced. Open-ended interview guides were prepared for adolescent boys and their fathers. Two male investigators (both postgraduates) carried out the semi-structured interviews with boys and their fathers in partnership, with one acting as interviewer and the other as recorder.

1.3 Clinic Based Studies

In the reproductive health clinic, in addition to clinical details, the gynaecologist inquired about past treatment of the problem (including faith-healing), constraints in seeking care and other factors that may have influence on health-seeking behaviour (e.g. marital alliances, gender based violence). The clinic therefore acted as a window to the community and provided valuable insights about aspects that are otherwise not revealed during a group discussion. This has allowed us to relate clinical diagnosis with the social and economic

circumstances surrounding it. Clinic-based surveillance has particularly been applied to women with unwanted pregnancy, women opting for the long-term contraception, and women with childlessness. All such information is kept strictly confidential; data analysis is only by numbers, while illustrative case histories are used after masking all identification data including village names.

1.4 Verbal autopsy of maternal deaths

To understand the sequence of events and social and medical circumstances surrounding maternal deaths, we used the technique of “verbal autopsies”. The verbal autopsy technique has been used in other parts of world and in India to investigate cause of maternal deaths. We adapted protocols to suit local conditions in rural Rajasthan, and translated the form in Hindi to enable use by non-medical persons. The questionnaire has various sections including personal and social details, verbatim account, and details on death, medical condition of the woman prior to the index pregnancy, problems and health care utilisation during antenatal, labour and postnatal periods, and treatment received after recognition of acute complication. Using key informants, 13 cases of maternal deaths were identified in ARTH’s field area or in nearby villages. Interviews were carried out at least 1 month after, but before 2 years of death. A gynaecologist and by 2 social workers trained in doing verbal autopsies carried out the interviews. Attempt was made to interview the family members present at the time of death, in absence of which another close family member was interviewed.

Socio-demographic Profile

2.1 The field area

Rajsamand district was carved out of Udaipur district in 1992. It has 7 blocks or “*panchayat samitis*”, one of which is Kumbhalgarh. The Aravali range lies along the edge of this block, dividing the Mewar region of Rajasthan from Marwar. Kumbhalgarh, with its low hills, rivulets and a reserve forest forms part of Mewar in southern Rajasthan -- a region characterized by high concentration of tribal communities. The block has a population of 113,301 (census 1991), which should have increased to about 137,000 assuming an annual growth rate of 2.1%. The population is 26% tribal and has low literacy levels (table 2.1).

The demographic picture of ARTH's field program area differs from the block as a whole - it has more tribals and fewer literates. The population lives in about 130 scattered hamlets of 10 revenue villages¹. While the main village may have a mixed caste profile, outlying hamlets are organized by caste group. There is only one major tribal community – Bhil or Gameti, which inhabits the more scattered hamlets of each village.

Table 2.1: Demographic features		
Feature	ARTH field program area 1997(10 villages)	Kumbhalgarh block (Census 1991)
Scheduled tribes %	48.5	26
Scheduled castes %	5.5	10
Total male literacy %	23	38
Total female literacy %	2.1	8
Tribal female literacy %	Not available	0.18
Sex ratio (females/1000 males)	985	993
Population density (per km ²)	159	146

Most experiences documented in this monograph have been from the 10 initial villages. The village and household profile outlined below have been drawn from the survey carried out by ARTH in 1997.

2.2 Village profile

Population

As per the national decennial census of 1991, the population of the 10 villages of the project area was 9973. Our census of 10 villages revealed a population of 11,521 (range 579 to 1850), reflecting a growth of 11.5% over 7 years. Inhabitants of each village are scattered over 6 to

¹ The program subsequently expanded to 27 villages and a population of 30,000 in 1999. A few of the villages added in this phase lie in the adjacent Gogunda block of Udaipur district

19 hamlets. The total number of households is 2370; hence on average 4.86 persons inhabit each household.

Health facilities

There is one mini-primary health centre (PHC) and 3 sub-centres located within project villages. All villages have been allocated to different outreach workers (auxiliary nurse-midwives and male multipurpose workers) of the government health system. The PHC with a single graduate doctor and female health supervisor is located about 10 km from ARTH's clinic. In addition, a community health centre (2-3 graduate doctors) is located 20 km away from ARTH's clinic. All project villages have anganwadis. There is no Ayurvedic dispensary within any of the project villages, but two are located in other accessible villages of the area. The *vaids* (ayurvedic practitioners) at both these dispensaries unofficially also provide treatment according to the modern medical system. Two unqualified village practitioners ("Bengali doctors"), one retired government (male) paramedic, and several traditional birth attendants also provide health care.

Educational facilities

All project villages have primary schools, while 3 have middle schools. In addition, there are 14 non-formal education centres in 6 of these villages. Literacy volunteers were present in many of the villages, but were by and large inactive.

Other NGOs

Astha has a well-established presence in the block; it works on women's and developmental issues, chiefly for helping tribals attaining their rights. Another agency, *Ankur*, was involved with developing savings and credit groups for women in selected villages, but closed after 2 years. A third called *Bhavana* works on non-formal education. ARTH has evolved a collaborative relationship with the largest (*Astha*).

Road links and nearest town

Four villages are not road linked, and are located 3 to 10 km from a bus stop. The rest are road linked and are connected by bus. However, most hamlets of each village are located 1 to 5 km away from the main village and bus stop. The nearest town is Udaipur, located 50-65 km from these villages. While two villages have post-offices, while there are no bank facilities in any of them.

2.3 Household profile

Sex ratio

The sex ratio was found to be 927 females per 1000 males as per our 1997 census. As per census of India-1991, the sex ratio is 985 for the same villages. This steep decline needs to be confirmed—census 2001 is expected to shed light on this aspect.

Age structure of population

More than half the population is in the reproductive age group, while one third comprises children below 12 years. This pattern is characteristic of populations with high fertility (table 2.2).

Table 2.2: Age structure of population		
Age group	Frequency	Percent
0-5 years	1940	16.8
6-12 years	2122	18.4
13-19 years	1120	9.7
20-29 years	2175	18.9
30-49 years	2630	22.8
50 and above	1534	13.3
Total	11521	100

Household composition

Most (97.4 per cent) households are made up of Hindus, while 1.2 per cent are Muslim and 1.4 per cent Jain. Fifty per cent households belong to the tribal community, while 5.6 per cent comprise scheduled castes.

Literacy

Table 2.3 depicts literacy rates in the population aged above 5 years in the project area in 1997. All those who could at least write their own names were included among the literates. As expected, the sex differential in literacy rates is large, with males' literacy being 3 times greater than female literacy. The level of literacy however shows an increasing trend with decreasing age, especially among girls. These literacy rates also are significantly higher than those of census 1991. We feel that this could be due to 2 reasons:

- ✦ Efforts to promote education and literacy since 1991 have helped to rapidly increase literacy levels among younger age groups
- ✦ Hawthorne effect - we inquired about each family member's ability to write, as the indicator of literacy. It is possible that respondents over-reported their ability to write, this being a socially desirable skill.

Table 2.3: Literacy rates by age and sex			
Age group	Literacy %		
	Total	Male	Female
6-12 years	63.8	78.9	48.6
13-19 years	55.3	82.6	25
20+ years	27.1	47.2	5.3
All age groups (1997)	38.5	58.3	17.4
All age groups (census 1991)	12.2	22.2	2.06

Table 2.4 shows school attendance rates for the 6-19 year age group by age and sex. It shows that although 41.6 % of girls between the ages 6 and 12 were attending school, barely 6.2 % of those between the ages of 13 and 19 do so. This means that a health education intervention for adolescent girls of this area cannot be targeted mainly through schools. Similarly more than 70% of adolescent boys (13-19 years) are out of school, hence school based health education for them too may have limited impact.

Table 2.4: School attendance (%) by age and sex			
Age group	Total	Males	Females
6-12	59.3	76.6	41.6
13-19	18.5	29	6.2
Total	45.2	59.8	29.8

Housing characteristics

This survey gathered data on electricity, water sources, sanitation facility, number of rooms and type of house (tables 2.5 to 2.8, below). Based on material used for construction of walls, roof, and floor, a house is classified as “*kuchcha*” (made of mud, stone and thatch), “*pucca*” (made of bricks, cement and concrete mixes), or “*semi-pucca*” (a combination of both). In the project area, only 5.8 % houses are pucca, which is lower than Rajasthan average of 25% (NFHS, 1992-3). Houses of tribal inhabitants are more rudimentary as compared to those of non-tribal groups.

Table 2.5: Type of house (%)			
Type of house	Total	Tribal	Non-tribal
Kuchcha	76.6	94.6	49.5
Pucca	5.8	2	18
Semi-pucca	17.6	3.4	31.9

We also assessed the number of rooms per household, since crowded conditions influence health status. A majority of the households (61.2 %) have only one room, in which an average of nearly 4.82 members live, resulting in crowded conditions.

Table 2.6: Number of rooms in the house (n=2370)	
Number of rooms in the house	% households
1	61.2
2	26.5
3 or more	12.3

Only 21.9 per cent of households of our project area had electricity as compared to 42 per cent reported for the state by the NFHS (1992-3). As expected, far fewer tribal households had this facility as compared to other castes (table 2.7).

Table 2.7: Light source among households (n=2370)			
Source of light	% households		
	Total	Tribal	Non-tribal
Electricity	21.9	5.1	38.5
Kerosene, oil or gas	78.1	94.9	61.5

Sanitation is an important determinant of water-borne and skin diseases. Pit or flush latrines were universally absent; given that 99.7% households were found to have no sanitation facility. For drinking, washing or bathing water, the majority of households rely on the hand pump or well (table 2.8).

Table 2.8: Water source in households (n=2370)		
Water source	% households	
	for bathing	for drinking
Hand pump	56.8	63
Well	32.9	35
Spring	7.9	1.3
River / pond	2.4	0.5

Ownership of land, livestock, and consumer durables

Almost all households own land, while most own livestock, chiefly cattle (table 2.9). A radio or TV might be expected to expose household members to health messages, while a means of transportation allows greater access to services outside the village, including health services.

Other consumer goods like sewing machines and fans indicate a family's socio-economic status. Table 2.9 shows that *radio is owned by a tenth of population and television by less than one percent*. Own transport is available to only 5 per cent households. This is expected to limit mobility in a region where public transport is poor.

Table 2.9: Household ownership of land, livestock and consumer durable goods	
Item owned	% households
Agricultural land	98.6
Livestock	92.4
• Cow	26.5
• Buffalo	69.6
• Bullock	73
• Sheep / goat	56.7
• Camel	3
Sewing machine	2.1
Fan	2.6
Radio	10.2
TV	0.9
Water pump	0.5
Bicycle or scooter	5.1
Tractor	0.5

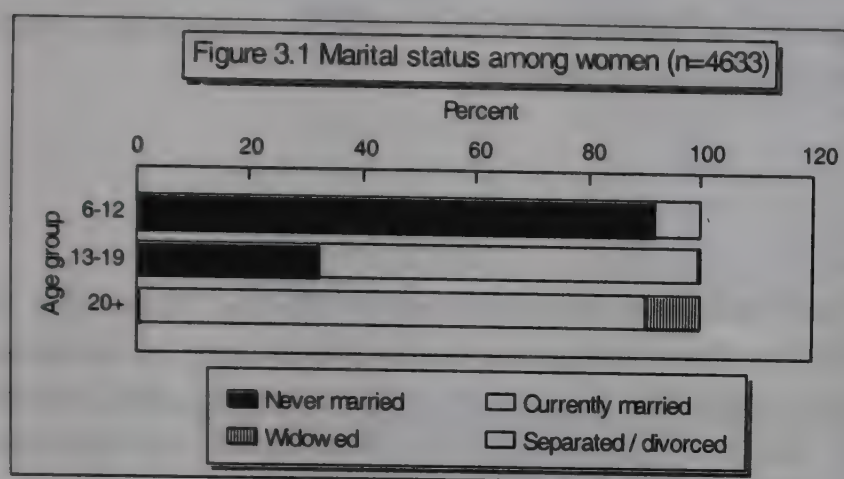
Occupation

The heads of majority of households (85 %) depend on agriculture or agricultural labour combined with animal husbandry, 6.2 % depend on a government or private job and 1.7 % on household industries. Only 0.4 % household heads are engaged as mine workers.

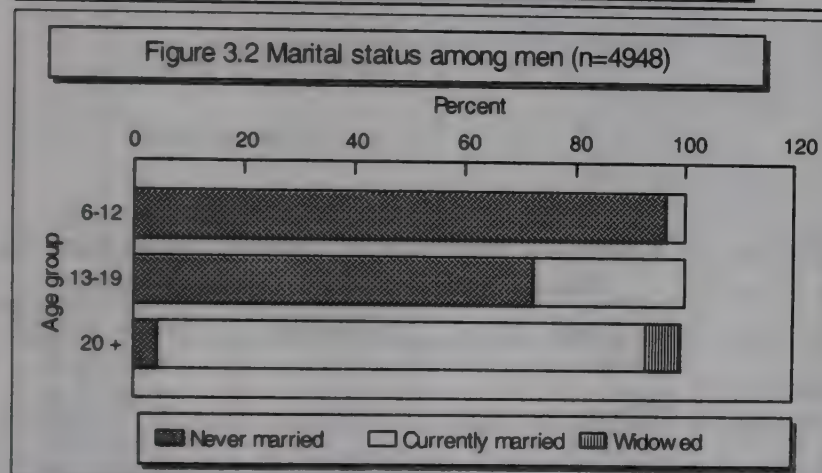
Marriage and Fertility

3.1 Marriage and cohabitation

Rajasthan is known for early age at marriage (median age at marriage for women 14.6 years NFHS 1992-3). Figure 3.1 & 3.2 show the current marital status of the population above 5 years as surveyed in 1997. About two thirds of adolescent girls and one third of adolescent boys aged 13-19 are currently married. The median interval between marriage and gauna (cohabitation) is 2 years. Thus sexual activity by and large starts during adolescence within marriage.



Marriage is not immediately followed by cohabitation with the husband, especially if it has occurred at a very young age. Cohabitation usually starts with the ceremony of "gauna". In our project area, 60 percent of married adolescent girls aged 13-19 had started living with their husbands.



The end-line study revealed that the median age at marriage was 12 years among the married women respondents, while the median age at gauna was 14 years (table 3.1). Among husbands of recently delivered women, the median age of marriage was 16 years. More than 90% were married before the age of 21 years (which is legal age at marriage for men), while one fifth were married by 15 years. The

median interval between marriage and cohabitation (gauna) was 2 years. Approximately 14% women and 16.2 men had gone through customary remarriage (nata). The reasons for nata and its influence on health seeking behaviour have been discussed in chapter 9.

Table 3.1: Marriage and "nata"		
	Women (n=507)	Men (n=228)
Median age at marriage	12 years	16 years
Median age at gauna	14 years	18 years
Customary remarriage (nata)	14%	16.2%

However, sexual activity can even start in the period between marriage and gauna. This can happen when girl visits her husband’s house before gauna on the occasion of a marriage, festival or death in his family or during the harvesting season for helping the husbands’ family. Sexual activity and pregnancy before gauna are however not socially sanctioned; hence girls may seek abortion for such pregnancies. If an abortion is not possible, then parents might arrange for an earlier gauna.

Premarital sexual activity occurs sometimes, but we were unable to assess its true extent. It usually occurs by mutual consent in the fields or during marriage functions or fairs. Our qualitative study of 30 adolescent boys aged 10-19 years revealed that one third had engaged in premarital sexual activity. Girls are more easily attracted towards boys who have returned from cities, and are therefore better dressed, have more money, and can bring gifts for girls. Boys are however, often unaware that a single casual sexual encounter can result in pregnancy.

We found that carrying out reproductive health education of unmarried adolescent girls is viewed with suspicion in such community. It however seems socially acceptable when targeted at married girls even if they have not started cohabiting.

3.2 Early childbearing

Childbearing starts at an early age in our field area as evidenced by the fact that 48% of married girls aged 15-19 years in our end line study had given birth at least once, in addition to which 6 per cent were pregnant. It is ironical that in a society where teenage girls almost universally become sexually active and begin childbearing, education about reproductive health issues is considered taboo.

3.3 High fertility

Women of the area have high fertility. By the time they are 25-29 years old, women have borne an average of 4 children. (table 3.2). Not only do women undergo repeated pregnancies and childbirth, the interval between two births is small, adversely affecting women’s as well as their children’s health.

Table 3.2: Number of children ever born to recently delivered women (n=323)		
Age group	Median	Mean (range)
15-19	1	1.27 (1-3)
20-24	2	2.58 (1-6)
25-29	4	3.69 (1-7)
30-34	5	4.75 (1-8)
35-39	7	6.8 (3-11)
40-49	7	7.3 (6-9)
Average (15-49)	3	3.44 (1-11)

3.4 Reproductive wastage

In presence of high fertility, a large proportion of women had suffered “wastage” of pregnancy or childbirth that is; these did not result into delivery of a live newborn, (due to spontaneous abortions or intrauterine death) or had eventually ended in a child death. Of all women, 53% had experienced at least one of the adverse outcomes (table 3.3). Most of this was due to child deaths.

Table 3.3: Adverse fertility event (n=830)		
<i>Event</i>	<i>Number</i>	<i>%</i>
Still birth in the past	50	6
Spontaneous abortion	95	11.4
Child deaths	371	44
At least one of the above	440	53

Childhood mortality in the area appear to be high as evidenced by the fact that a large proportion of women, as much as 44% suffered the death of at least one child. Replacement of these children through subsequent pregnancies is likely to adversely affect women's health and nutrition. Adverse reproductive outcomes are commoner among older women (table 3.4). Among women aged 30-39 years, nearly two thirds had experienced an adverse reproductive outcome. Uncertainty about child's survival beyond few years would also have implications for women's desire to use irreversible planning methods. The median and mean number of children ever born and living has been shown in table 3.5. On average, women had one less living child than the children they had ever borne.

Table 3.4: Age and adverse reproductive outcome (n=830)		
<i>Age group</i>	<i>Number</i>	<i>% with adverse reproductive outcome</i>
15-19 years (n=100)	23	23.0
20-29 years (n=373)	180	48.3
30-39 years (n=259)	169	65.3
40-49 years (n=98)	68	69.4
All age groups	440	53.0

Table 3.5: Difference between number of children ever born & living				
	<i>Recently delivered women</i>		<i>Ever married women</i>	
	<i>Median</i>	<i>Mean</i>	<i>Median</i>	<i>Mean</i>
Children ever born	3	3.44 (s.d. 2.04)	3	3.19 (s.d. 2.43)
Children living	2	2.70 (s.d. 1.66)	2	2.37 (s.d. 2.43)

3.5 Summing up...

Women of Kumbhalgarh begin their reproductive careers early in adolescence – following child marriage, they become sexually active in their early teens. About half become mothers while they are still teenagers. Women of the area experience high levels of fertility -- by the age of 30, they will have borne an average of 5 children. However, several pregnancies have an adverse outcome – over half of all women in the reproductive age group have lost a pregnancy to miscarriage, stillbirth or child death. This figure is as high as 70% among women in their fifth decade. It is evident that losing a child is a reality for most women – this trauma deeply influences their reproductive intentions and health seeking behaviour.

Contraception

4.1 Contraceptive use and method mix

The National Family Health Survey (1998-9) has revealed that 37.1% of married women in rural Rajasthan are current users of contraception. The figure is lower for women in ARTH's project area – 22 per cent were using contraception at the time of end-line survey in 2000. As expected, the use of family planning went up with women's age and the number of their living children (table 4.1).

Table 4.1: Contraceptive use by age and number of children (n=507 currently married women)	
<i>Category</i>	<i>Percentage users</i>
Number of living children	
0	2.5
1-2	16.4
3-4	34.1
5+	39.1
Women's age	
15-19 years	5
20-24 years	9
25-29 years	24
30-34 years	26
35+ years	29
Total (all currently married women)	22

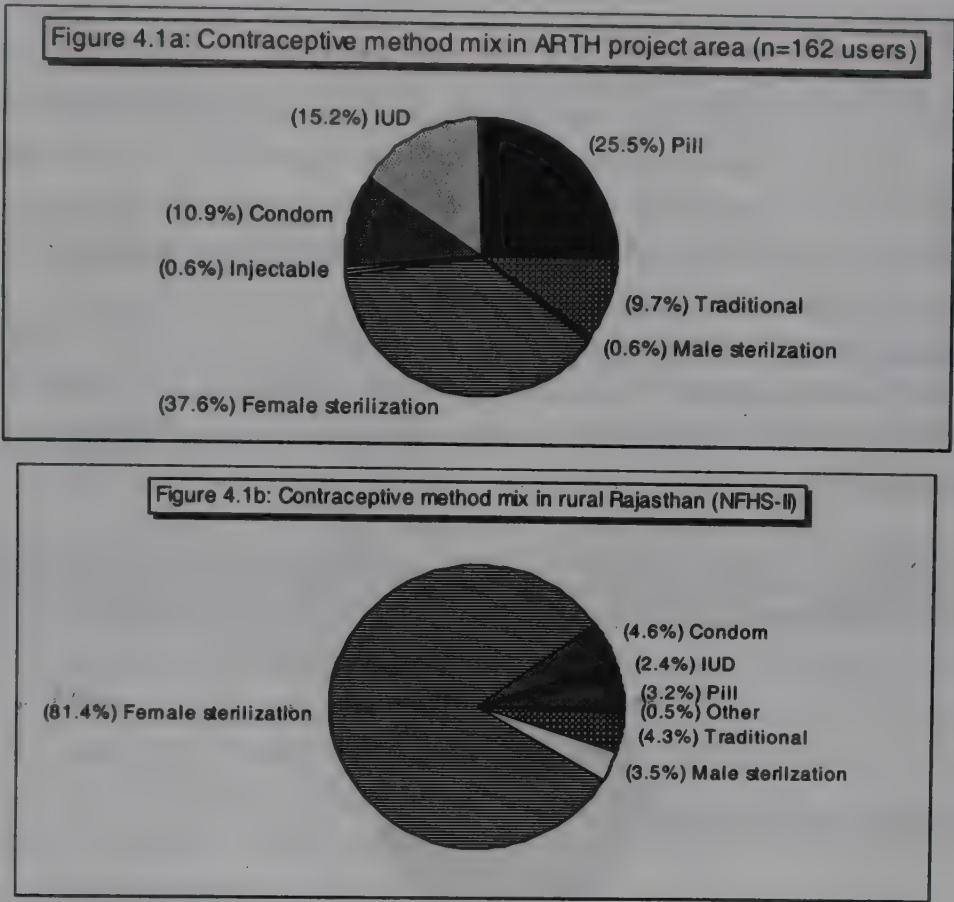
Among recently delivered women, the use of contraception was lower (18%). In this group, the use of family planning was much higher among women who had started menstruating, as shown in table 4.2 below. Women who have delivered more than 6 months ago and are still amenorrheic are at risk of becoming pregnant just like those who have started menstruating. However, far greater numbers of menstruating women were using contraception ($p < 0.0001$). This could be due to the strong perception among women that they were at risk of becoming pregnant only after their periods returned.

Table 4.2: Contraceptive usage by menstrual status among recently delivered women	
<i>Menstrual status</i>	<i>% using contraception</i>
Amenorrheic women who delivered 0-5 months ago, & are exclusively breast-feeding the infant (n=37)	16.2
Amenorrheic women who delivered 6-23 months ago (n=155)	05.8
Women who delivered 0-23 months ago and have started menstruating (n=116)	32.8
Total women who delivered 0-23 months ago, but are not currently pregnant (n=308)	18.4

Method mix

Although the current use of contraception in our field area was significantly lower than that reported for rural Rajasthan in NFHS 1999 (37%), the method mix is significantly different (figure 4.1). Whereas sterilization accounts for more than 80 per cent of the contraceptive prevalence rate (CPR) for Rajasthan as a whole, it accounted for only 38% of the CPR among the women of our project area. The different method mix could be attributed to two reasons:

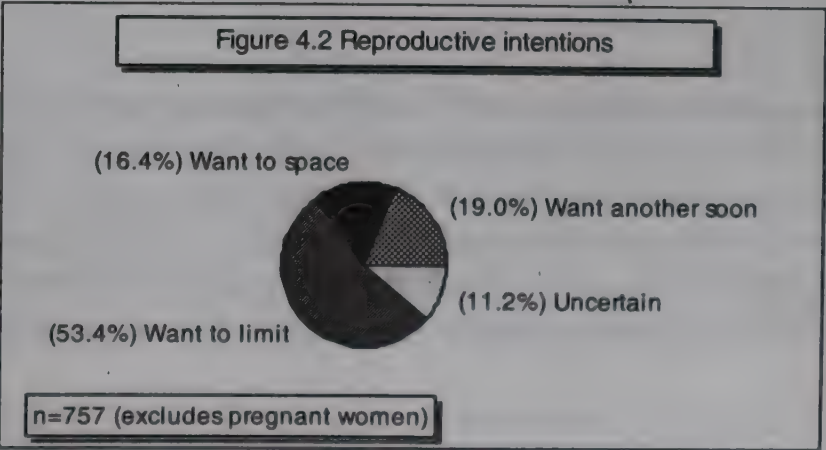
- (i) ARTH's Community Based Distribution (CBD) program offered greater access and wider choice of spacing methods in the project villages. The program in particular focused on good quality Copper-T services.
- (ii) High demand for reversible methods exists even among women who wish to limit, because of high child mortality in the area – 44 per cent women had experienced at least one child death².



4.2 Reproductive intentions

As seen in figure 4.2, out of all women aged 15-49 years, over half did not want more children, while a quarter wished to delay the next birth by 2 or more years. About a tenth were uncertain whether and when they wanted another child.

The desire to have more children was inversely related to number of



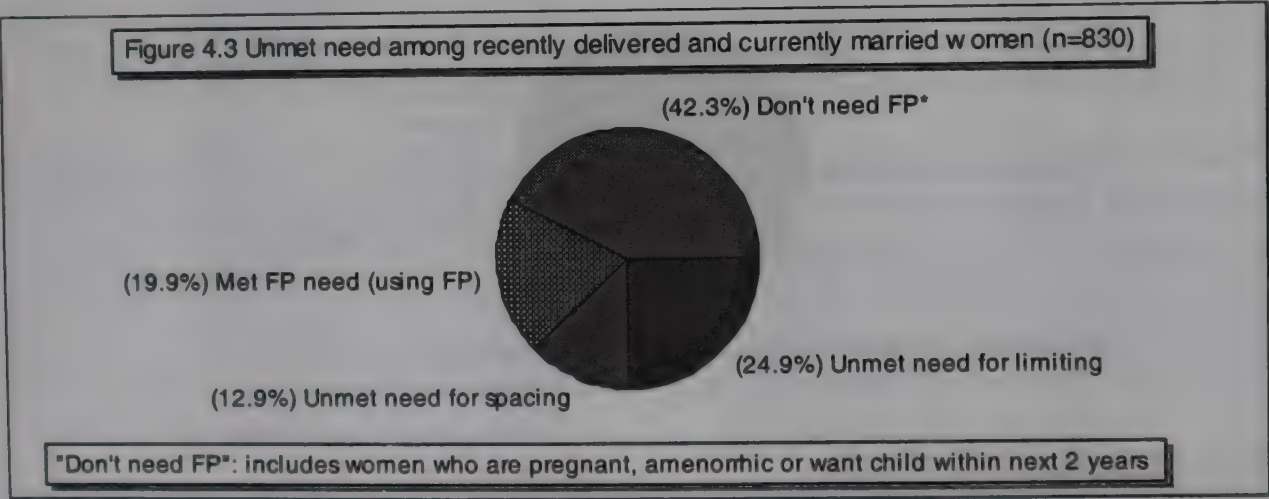
² Another 8% had experienced stillbirth or miscarriage

children (table 4.3) – the majority of women with 3-4 children did not want to have more children. However only 14% had undergone sterilization.

Table 4.3: Reproductive intentions based on number of living children							
No of children	Want another child			Undecided whether to have another child	Want no more children	Sterilized	Total
	Within 2 yrs	After 2 yrs	Undecided when / up to god				
None	73.0	17.1	2.7	0.9	6.3	0.0	111
1-2	17.0	29.4	11.3	6.7	31.6	3.9	282
3-4	5.3	7.5	4.9	4.9	63.2	14.3	266
5+	1.0	2.0	1.0	3.1	78.6	14.3	98

4.3 Unmet need

Our findings revealed that 38 per cent women (both, currently married and recently delivered women) had unmet need for family planning. These included 25 per cent women who did not want any more children (categorised as having an unmet need for limiting) and 13 per cent who wanted to have the next child after 2 or more years or were uncertain about whether or when to have the next child (categorised as having unmet need for spacing). Forty two percent women did not need to use contraception (categorized as “don’t need FP”) either because they were pregnant, menopausal, had amenorrhea following a wanted birth or wanted another child within 2 years – these are criteria adopted by the NFHS in estimating unmet need for contraception.

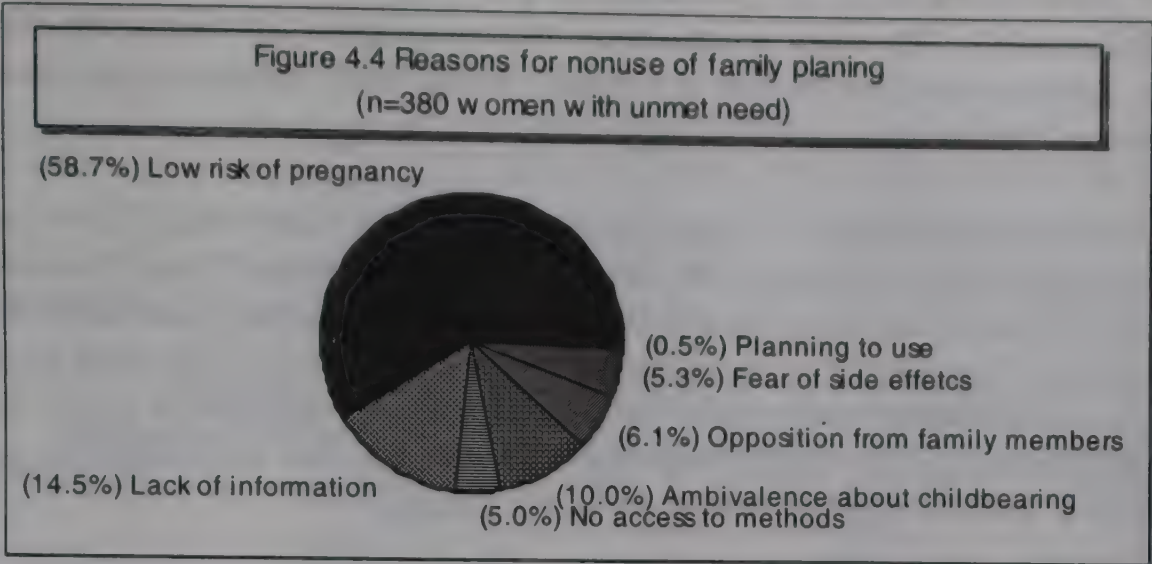


Reasons for non-use of family planning among women with unmet need

Women who had unmet need were asked as to why they were not using family planning. It is apparent (figure 4.4) that the most important reason is a low risk of pregnancy as perceived by women – this was expressed by terms such as “I will space spontaneously”, “my husband lives and works in the city”, “my child is too small”, “I have not started menstruating”, etc. Lack of knowledge of family planning methods was the second most common reason for unmet need.

The category of ambivalence about childbearing includes women who were not sure of their reproductive intentions - some of these women could have adopted reversible family planning methods at least till they were more certain about their intentions. Only 5 per cent women

said that they did not have access to methods. However, the evidence from women visiting our clinic suggests that lack of regular and reliable access to contraceptives is a major reason



for non-use of family planning. It is possible that the true reasons behind non-use are more complex than can be uncovered by a survey, and need to be explored further.

4.4 Attitudes towards teenage pregnancy

As evident from table 4.1 above, only 2.5 per cent of women use contraception before at least one living child has been born. To understand the perceptions of adolescent girls about teenage pregnancy and its effects, we conducted a small study of 93 adolescent girls aged 15 to 19 years in year 1998. In this study, 58 per cent girls opined that the ideal age to have the first child is between 15 and 19 years. We also asked them about the problems that an adolescent girl might develop at the time of delivery. Thirty seven per cent felt that she would not have any problems, while another 31 per cent felt that not being able to manage the child would be the most important problem. A few others mentioned difficult labour, underweight baby, stillbirth, weakness and growth retardation in the mother. The last problem was interesting since it revealed a perception that bearing a child impairs further growth of the (adolescent) mother. It is however clear that teenage pregnancy was not perceived as a health hazard by a majority of girls. Fifty five per cent adolescent girls were not aware of any reversible contraceptive methods.

Focus group discussions with adult women did however highlight their awareness that the first child should not be born until the age of 20-25 years. In spite of this, most women do not consider delaying the first pregnancy to be a viable option. In part, this is because the use of contraception by a newly married girl is believed to adversely affect her later childbearing. Girls also lack privacy to use and store contraceptives like the oral pill. Familiarity with contraceptive use on their part might also raise suspicion of promiscuity.

Parents exercise considerable control over the sexual activity of their married children. Many families expect the daughter-in-law to become pregnant soon after she starts living her husband. If she does not conceive within 2-3 years, she risks being labelled as infertile.

Radha, 18 years, had been living with her husband off and on for the last 3 years, and had not conceived. One day, her parents learnt that the couple had not started having sex because her husband was studying and they did not want to have a baby. The couple was pressurised to start having sex and have a baby. Over next few months, Radha had been trying hard to become pregnant. Having visited some doctors for treatment of her "inability to conceive", Radha approached our clinic for help.

Pressure on an adolescent girl to conceive may lead to unnecessary medication and premature investigations at the hands of unscrupulous practitioners. Some invasive tests for childlessness like D&C or injecting dyes in the uterus themselves can cause infertility, even if none existed before. Sometimes, mothers and rarely mothers in law might wish to delay their daughter or daughter-in-law's pregnancy. To achieve this, a mother-in-law might insist that a young teenage daughter-in-law sleeps with her and not with her son. Hence a very young couple might have no choice but to abstain for some months.

If service providers are sensitive to needs of adolescent girls and maintain confidentiality, girls do accept contraceptives. After our CBD volunteers started distributing pills and condoms, many married and unmarried adolescent girls started accepting pills.

We asked men during a survey, to assign ideal intervals between marriage, cohabitation, first and subsequent births. Going by their responses (table 4.4), most first births should occur around the age of 21 years. The real situation however is different, given that over half of all married teenagers aged 15-19 years have already given birth or are pregnant.

Table 4.4: Men's perceptions of first birth and birth interval (n=228 men)

	Median	Mean, S.D., range
Ideal age of marriage	17 years	16.4, +/- 2.6 (range 5-25)
Ideal interval between marriage & cohabitation	2 years	2.5 +/- 1.4 (range 0-10)
Ideal interval between cohabitation & first birth	2 years	2.15 +/- 0.96 (range 1-5)
Ideal interval between two children	3 years	3.15 +/- 1.51 (range 1-9)

4.5 Attitudes towards birth spacing

During focus group discussions, women opined that having too many children makes a woman weak, but that men are unconcerned about it. It is believed that if next child is born too soon after the first one, the first child does not get breast-milk for a sufficient period and consequently "shrivels up" and may even die. Women believe that it is ideal to have another child when first one has started eating well and has grown adequately over 3-5 years.

The ideal birth interval according to men surveyed in year 2000 was also 3 years. Data from women seeking abortions at our rural clinic also show that the second most important reason for seeking abortion was related to young age of smallest child. Our findings suggest that women and men in this interior tribal area do have a fairly good understanding of the desired interval between 2 births, but may not be able to practice it accordingly.

4.6 Knowledge and perceptions about contraceptive methods

Women participating in the survey in 2000 were asked about their knowledge of spacing methods. During pre-test we had found that knowledge of sterilization was universal and hence decided not to canvass questions on the topic. Each reversible contraceptive method was mentioned, and women were asked as to which one they had heard of. As seen in table 4.5, the most widely known method is the pill, followed by condoms, IUDs and injectables. Knowledge of traditional methods is low. On the whole, knowledge was significantly better than that at the time of baseline study, but comparable to results from the NFHS-2.

Table 4.5: Knowledge of various family planning methods (percentage of currently married women who have heard of a method)			
<i>Contraceptive method</i>	<i>Baseline survey, 1998 (n=233)</i>	<i>End-line survey 2000 (n=507)</i>	<i>NFHS-II rural (1998-9)</i>
Oral pills	37	75	75
Condoms	12	61	69
Copper-T	17	60	64
Injectables	NA	42	NA
Withdrawal	2	26	14
Safe period	12	9	26

Men were also asked as to how one could space births. Their responses have been shown in table 4.6. A very large proportion of men think that the couple should exercise self control ("keep distance") in order to space. Nearly half of them mentioned condoms and pills on their own.

Table 4.6: Men's responses about ways to keep interval between 2 children (n= 396 methods mentioned by 228 men)		
<i>Method</i>	<i>Number</i>	<i>%</i>
Abstinence	146	64
Pills	104	45.6
Condoms	98	43.0
Copper-T	29	12.7
Herbal medicine	6	2.6
Don't know	6	2.6

Discussions were raised about individual contraceptive methods during focus group discussions with women. Their perceptions have been given below:

Pills

Women participating in focus group discussions said that pills are not easily available in the villages. Some felt that using pills might adversely affect subsequent childbearing. Apart from this they did not apprehend any side effects. Sometimes women wanting the pill make the effort to visit the ANM in case there is a sub-centre within the village. Several women believe that pills are useful for "bringing on a missed period", but that they do not work in all cases. They recounted the case of two women who had started using pills for missed periods. Both pregnancies resulted in the birth of children at term. After ARTH started a CBD program for distributing condoms and oral pills, many women sought pills from our volunteers and field workers *after* missing a period. On routinely inquiring from women visiting the clinic about use of contraceptives, several admitted they had used pills after they had missed a period.

Condoms

Some women participating in FGDs had heard of condoms even though they had not seen or used them. Some were concerned that the condom might slip off and remain within the woman's body. They however felt that if someone were to give condoms to men and explain

about their use, men would use them. Even elderly women were interested in taking condoms from us, so that they could give them to their daughters-in-law.

Copper-T

Very few women in focus group discussions in 1998 had heard of the Copper-T - one of them had got it inserted at our clinic, but later pulled it out herself when other women warned her that it might hurt her husband. Some women felt that it might make them weak, following which they might not be able to carry out heavy work. Women reported instances in the area wherein abdominal surgery or an expensive "operation from below" was required for removal of an IUD. In the clinic too, we encountered some women who were apprehensive that the copper-T might hurt the husband or trap him during sexual intercourse. Many women had also heard that the copper-T causes heavy periods and or pain in the abdomen and back.

Natural methods

Among the natural methods of contraception, very few women were aware of withdrawal. Withdrawal is commonly understood as *beej bahar dholna* ("spilling the seed outside"). However, women felt that only responsible men would use withdrawal. By contrast, abstinence is a well-known option – many couples use it to delay or avoid pregnancy. One woman recounted how she had her first child 7 years after marriage, because she and her husband had abstained for 4-5 years. She felt that nowadays, couples do not observe any such restraint - they have children within a year or two of marriage. Another woman, a mother of 4 who did not want any more children, said that she abstained from intercourse. Sometimes if a woman wants to abstain in order to delay the next pregnancy and her husband does not cooperate, she goes to her parent's house. However, the husband often does not allow her to stay for many days in her parents' home and brings her back. If the woman continues to refuse sex with her husband, he might abandon her and bring another woman home following the traditional "*nata*" (remarriage) system by paying Rs 20,000 – 30,000 as bride-price. On the other hand, men's survey revealed abstinence as the most common method mentioned by men. (table 4.6)

The safe period came up for discussion. Almost all women believed that the greatest chances of conception are during menstruation and for 3-4 days immediately thereafter. If a woman has intercourse 5-7 days after the end of menses (i.e. 9-12 days after onset of periods), then her chances of conception are believed to be very low. This is based on the reasoning that a woman's reproductive passages are open at the time of menstruation; hence she has a higher chance of conceiving. As per scientific criteria, the above estimation of safe days is wide off the mark – most of the perceived fertile days are in fact safe days, and vice versa. Few women are aware of herbal methods of contraception.

Emergency contraception

There is neither availability nor awareness regarding emergency contraception. However, when community volunteers were informed that oral pills could also be taken as emergency contraceptives, they evinced a lot of interest in learning about and providing the service.

Sterilisation

We learnt from focus group discussions that women are aware of the sterilisation for both women and men. Vasectomy is however not preferred because of 4 major perceptions:

- ❑ It makes a man weak – after the operation he may not be able to work hard and earn enough.
- ❑ Women believe that male sterilisation is performed by tying a knot in the passage of semen. Hence vasectomy blocks the passage of semen leading to diminished sexual desire and weakness.
- ❑ Vasectomy might “fail” – the wife might become pregnant. Failure is believed to imply extramarital relations on part of the woman (*lugai aadi hidey*). Pregnancy following vasectomy therefore carries a stigma, and the wife might be thrown out of the house.
- ❑ Vasectomy is more dangerous than female sterilisation and can be life threatening. If some problems occur during the operation, the passage might become swollen.

Women appear to carry very negative memories of vasectomy, from the times when it was actively promoted. They recount the times when government staff would offer money to men to undergo vasectomy, failing which they would apply pressure (“they would run behind men with money”). Older women opined that after operation a man’s scrotum becomes swollen, his body gradually dries up and he ultimately dies (*huki huki ne mari jave*). They recounted incidences in which men gradually became weak and died 2-5 years after undergoing vasectomy.

One woman recounted her experience as a newlywed bride. She learnt that her father-in-law had undergone vasectomy, after which her mother-in-law became pregnant. Her father-in-law suspected that his wife had conceived from another man, leading to frequent quarrels. They subsequently separated and lived apart for 12 years.

Women believe that their bodies have a centrally located “nus”, a passage that connects the vagina to the uterus, and is akin to the stem of a flower. Sterilisation (“nusbandi” or “closing of the nus”) is believed to result in irrecoverable loss of a woman’s vitality. Just like a flower whose stem has been broken, a woman shrivels after her “nus” is cut. This understanding on part of women suggests that the sterilisation procedure is believed in some way to result in a loss of womanhood. A sterilised woman is believed to become ill and weak, especially from aches in the limbs and shoulders. Weakness may be averted by rest and a good diet after sterilization, but this is not feasible for most women.

Tammu Bai: “I underwent sterilisation at Kelwara. When I’d borne 3 children, my husband told me to undergo sterilisation. They used an electric “current” to sterilise me, after which I returned home the same day. I rested only on the day of operation and started working from the very next day. At that time I felt very weak, but there was no option. My body has suffered a lot after sterilisation. I have no energy to work, my body aches, my periods last for 15 days and are very heavy. I feel that having more children would have been better than undergoing sterilisation, because then my strength would have been restored by a good diet. Sterilisation has drained all my energy because my nus has been cut.”

Roopli Bai: “If I had not undergone sterilisation, I could have worked much more, even as a labourer. But now there is no strength left in my body. I therefore cannot do much work.”

The decision to undergo sterilisation is usually taken between the husband and wife, other family members are by and large not involved in the decision making process. However, in some cases, decision-making can be unilateral or influenced by others as illustrated by the examples below.

Pemli Bai: "Both my husband and I took the decision, and I underwent the operation. I was not scared."

Bhanwari Bai: "My husband had gone to work. My two sisters-in-law came to me and insisted that I accompany them to a fair. We landed up in the hospital at Kelwara where my bhabhi (brother's wife) revealed that she had come for a sterilisation. The doctor however told her that she could not be operated upon. Meanwhile I decided to avail of the opportunity to undergo sterilisation. When I returned home after the operation, my husband was very angry because he had wanted one more son. He left the house and returned only after 12 months."

Mani lived in a village with 2 children, while her husband lived and worked in the city. An older brother-in-law once asked her to come along with him and his wife to Kelwara (the block headquarters). After reaching Kelwara, he told the doctor that both were his wives and that he wanted them to be sterilized. Mani was unwilling and unaware, but did not have the courage to protest. She had to undergo sterilisation. A few months later she committed suicide by jumping into a well.

During a village meeting, women revealed that a few years ago, when they wanted to be enrolled as labourers for construction work, they were told that they would be enrolled only if they underwent sterilisation. Some of them did undergo sterilisation, but later became so weak that they were no longer able to work.

Sometimes sterilisation may be performed during pregnancy as illustrated below:

Pemi Bai: "I got operated (sterilisation) about 15 years ago. Several women from my village were transported in a truck. The doctor initially told me that my operation could not be done because I was pregnant. Just when I was about to leave, the doctor however said that an operation could be done, after which I would have the baby that I was carrying, but no more children. I underwent the operation and delivered a baby some months later."

4.7 Inter-spousal communication

Communication among spouses about the desired number and timing of children is known to positively correlate with use of contraception -- couples that discuss these matters are more likely to plan their families. We therefore collected information on inter-spousal communication (table 4.7). It was evident that the large majority of couples do not communicate with each other about family planning.

Table 4.7: Inter-spousal communication about timing and number of children	
Respondent category	Percentage
Currently married women with 1-2 living children, 1998 (n=233)	23
Currently married women, 2000 (n=507)	33.2

4.8 Summing up...

1. Early marriage exposes adolescent girls to the risk of teenage pregnancy, but the use of contraception to delay first pregnancy is virtually non-existent. Outreach workers do not offer newly married girls any information or contraceptive services. On the other hand they face family pressure to quickly begin childbearing, while use of contraceptives is disapproved.
2. There is very high unmet need for family planning, both for spacing and limiting births. Although most women and men understand the importance of spacing between two births, they seldom use contraceptives to delay the next birth. Among the reasons for low use are lack of access to information and services, along with a social norm of adopting contraceptives only after completion of the desired family size. Even when services are available, women and men may have negative attitudes towards them or may fear family opposition. The regular availability of good quality, confidential services can rapidly change this situation.
3. Nearly three quarters of couples do not communicate with each other regarding the desired number and timing of children. There is therefore a need to promote spousal communication about their fertility intentions. While women perceive a greater need, men exercise more control over decision-making. Hence an outreach programme must approach both men and women.
4. Knowledge of sterilization is near universal. However, the widespread negative past association with male sterilization compounded by lack of promotion, has rendered its use non-existent. Women also have many apprehensions about female sterilization but nevertheless continue to adopt it.
5. Unmet need for limiting births does not amount to unmet need for sterilization. Many couples that have completed their families are unwilling to adopt sterilisation for various reasons. There is a need to promote long-term reversible methods if unmet need for limiting is to be reduced.

Maternal Health

5.1 Maternal mortality

Maternal mortality ratio (MMR) in Rajasthan is 670 women per 100,000 live births (SRS 1998). Since estimates of maternal mortality need very large sample sizes, we could not measure MMR in our field area in Kumbhalgarh.

Thirteen cases of maternal deaths were investigated using this technique. In one case data was incomplete because the husband (respondent) had very little information of the circumstances surrounding his wife's death and other family members could not be contacted. Background characteristics of 12 remaining women who died in maternity have been summarised in table 5.1.

Table 5.1: Background characteristics of women who died during maternity (n=12)		
<i>Background characteristic</i>		<i>Number of women</i>
Travel time from home to motorable road	<10 min	8
	10-30 minutes	2
	>30 minutes	2
Caste	Scheduled tribe	6
	Scheduled caste	2
	Other	4
Age	<20 years	2
	20-29 years	6
	30-39 years	4
Literacy	Illiterate	10
	Literate	2
No of prior births	0	2
	1-2	1
	3-4	8
	5 and above	1
No of living children at the time of death	0	2
	1-2	5
	3-4	5
	5 and above	0

Table 5.2 shows the time of death of these 12 women in relation to the stage of pregnancy. In this small sample, most maternal deaths occurred after delivery, half of them within 4 hours of birth. Other studies have also found that most maternal deaths occur soon after delivery or during the postnatal period. Complications such as postpartum haemorrhage kill women so rapidly that there is little time for referral care. This highlights the need to have skilled persons present at the time of delivery, so that they may identify and treat complications as soon as possible after delivery.

Table 5.2: Time of death in relation to stage of pregnancy

Time of death	Number	Probable cause of death
During pregnancy less than 7 months or within 42 days of abortion	0	
During pregnancy after 7 months but before labour	1	Jaundice in pregnancy
During labour or delivery	0	
After birth of baby and within 42 days of delivery	11	
Within 4 hours of birth	5	Post-partum haemorrhage (4), Retained placenta (1)
4 – 24 hours after birth	1	Severe pre-eclampsia with anaemia
On the 2 nd or 3 rd day after birth	3	Eclampsia (1), Eclampsia with severe anaemia leading to heart failure (1), severe anaemia (1)
More than 3 days after birth	2	Puerperal sepsis with severe anaemia (1), pleural effusion / TB (1)

Problems that began in pregnancy contributed to some of the deaths in question. As seen in table 5.3, nine of these women had significant problems during pregnancy, yet only five had received antenatal care. These five received ANC from a combination of PHC (4), sub centre (1) and a city hospital (2). It however appears that they may not have received a minimum essential antenatal check up, due to which early warning signs of complications were not recognised. In absence of detection of problem, they were not advised referral care that was required for the serious nature of their problems. The following accounts of maternal deaths as recounted by respondents highlight significant gaps in maternal care.

Table 5.3 Antenatal problems and care received by women who died in maternity (n=12)

Antenatal check-up (at least once)	6
Received Tetanus immunisation	5
Iron intake	7
Problems during pregnancy	9
Types of problems during pregnancy	
Jaundice	1
Antepartum haemorrhage	1
Swelling and severe pain in one leg	2
Headache	1
Blurring of vision	5
Breathlessness/ dyspnoea	4
Prolonged cough	4
Swelling on face or hands or excessive swelling of legs	2
Fits	1

Radha, aged 30 years, was pregnant for the fifth time. She had delivered 4 children in the past, but none was alive. She had come to her parents' house for delivery. She had swelling of her face and blurring of vision almost a month before delivery. She had gone thrice to the local Primary Health Centre for antenatal check-up, where a nurse had examined her. When her pregnancy was full term, she started having convulsions one night around 9 pm. Her limbs became stiff and her mouth started frothing. Her brother called a male health worker from another village. He administered some injections and advised referral to Udaipur. It took 3-4 hours before a jeep could be arranged. Starting from the village at around 1 am, Radha reached the Government Women's Hospital in Udaipur at 3 am. Treatment started soon after and a caesarean operation was carried out later at 8 am - twin babies were delivered. Radha also received a blood transfusion. She however developed convulsions after the operation, and lost consciousness. She died at 1 pm that afternoon.

Comment: It appears that Radha's blood pressure and urine for albumin, were not tested during her visits to the PHC for antenatal care, nor had she been informed about the twin pregnancy. Had she received a complete antenatal check-up and appropriate treatment, the complication (eclampsia) could have been averted.

Kesi, wife of Kesar Singh, aged 28 years lived in a village in tehsil Gogunda. She had a two and a half year old daughter, and was pregnant for the second time. Kesi was very thin and weak right from early pregnancy. She had undergone antenatal check-up from the local primary health centre. She apparently had no problem during pregnancy except for swelling of the feet. When labour pains started, her husband called his sister-in-law and a dai. At around 2 am (at night), she delivered twin babies at home without a problem. About 10-15 minutes after delivery, she suddenly started bleeding profusely. Her limbs became stiff and eyes started bulging. Kesi's husband then called in a nurse (ANM) who lived in the same village. The nurse gave her 2 injections, but the bleeding did not subside. The ANM advised referral to Udaipur. Kesi's husband arranged for a jeep and took her to the primary health centre, where the doctor declared that she was already dead. She must have died around 5 am. On being contacted the ANM revealed that she had been called at around 4.30 am by which time Kesi had bled a lot, but was alive. She opined that Kesi had perhaps died in the jeep, en route to the PHC. Within 20 days, both her newborn infants died. This incident occurred in May 2000.

Comment: Kesi had delivered twin babies, but she was not told during antenatal check-up at local PHC that she had twin pregnancy. Since twin pregnancy is known to be associated with many maternal complications such as pre-eclampsia, anaemia, PPH and obstructed labour, she should have been advised at time of antenatal check-up, to deliver only in a hospital where emergency obstetric care was available. Moreover, she was probably weak and anaemic from early pregnancy. We could not ascertain whether haemoglobin estimation had been carried out during the antenatal period - this would have helped to detect and treat severe anaemia. Only a dai was available at the time of delivery. Had a skilled attendant (perhaps the local ANM with some additional training) been present at the time of her delivery, obstetric first aid could have been rendered when the bleeding commenced, thereby allowing more time to reach the referral facility.

The place of delivery and birth attendant in case of 11 women, who died after delivery, has been shown in table 5.4. Eight women delivered at home with the help of TBAs, relatives or on their own (without an attendant). The probable causes of death for these eight women were severe pre-eclampsia or eclampsia (2), retained placenta (1), postpartum haemorrhage (3), severe anaemia (1), and tuberculosis (1). The birth attendants in question could not have detected conditions like pre-eclampsia or anaemia at an early stage. They also could not have provided obstetric first aid - conventionally trained TBAs are unable to assess rising blood pressure or declining hemodynamic status. They also lacked the skills and equipment to

stabilise women before or during referral, this being crucial for helping them survive the journey to a distant hospital. These instances therefore suggest that while illiterate dais and relatives can adequately manage normal deliveries, they may not be able to monitor vital signs, detect a complication early, or provide obstetric first aid. These lacunae are likely to remain even after the simple short duration training for illiterate persons that characterises most TBA training programmes.

Table 5.4: Place of delivery & birth attendant among women who died in maternity (n=11, excludes one woman who died in antenatal period)	
Place of delivery	Number
Home	8
Hospital	3
Birth attendant	
Doctor	3
Relative	5
TBA	2
Nobody	1

Nanki, a 17-year-old girl, lived with her husband Heeralal in Mumbai. She was pregnant for the first time and had come to her parents' house in a village in Kumbhalgarh block for delivery. She had twice undergone antenatal check-up at the local PHC and apparently had no major problem during pregnancy. Her labour pains commenced at term. Her aunt who was at home, attended the delivery. A stillborn child was delivered. As soon as the placenta delivered, Nanki started bleeding so profusely, that her bed and clothing got soaked. Her aunt informed Nanki's brother who went over to the PHC on his two-wheeler and returned with a doctor and nurse. They gave her some injections and intravenous fluids, but her condition continued to worsen. Nanki was restless and repeatedly asked for water. Meanwhile, the doctor advised referral to the Community Health Centre (CHC) of the block. A jeep was arranged and she was taken to the CHC. Nanki received given oxygen and more fluids, but died within minutes. This happened in June 2000.

Comment: The death of this adolescent girl could probably have been prevented had a skilled birth attendant been present at the time of delivery, to manage postpartum haemorrhage. The CHC in turn could have done more than provide fluids and oxygen – examination of the uterus under anaesthesia and blood transfusion could have been life saving. As an adolescent, she was more likely to have begun pregnancy in an anaemic state – this would have diminished her chances of withstanding even mild haemorrhage.

Table 5.5 shows the treatment sought for these women. It is unfortunate that only 4 women were able to reach a comprehensive emergency obstetric care³ facility. No emergency obstetric facilities are available in Kumbhalgarh, even at the block headquarters. On the other hand, families (especially those belonging to the tribal community) are reluctant to transport women to the city hospital, because of the distance, fear of high and uncertain costs and indifferent behaviour by hospital staff. Following accounts exemplify the some of the factors influencing the treatment sought

Table 5.5 Place of treatment after recognition of complication (n=12)	
Level of final treatment	Number
• None	2
• At home only	3
• At health facility, but not EOC	3
• At EOC	4
Place of first treatment (n=10)	
• Home	7
• Hospital	3

³ A comprehensive emergency obstetric care (CEOC) institution must have facilities for caesarean section, anaesthesia, and blood transfusion in addition to other obstetric care

during maternal emergencies.

Phephli (24 years), the second wife of Kanha Gameti, lived in a village of tehsil Kumbhalgarh. She had borne one child by her first husband, but it had not survived. Phephli became pregnant for the second time. During pregnancy, she often felt breathless and suffered a chronic cough. She neither sought nor received any antenatal care. After a few months, she developed blurring of vision. She eventually delivered at home with the help of a trained traditional birth attendant and had no problems. Two days after delivery, she became restless ("jee ghabrayo"). In the evening, her husband called a vaid from a government ayurvedic dispensary in the vicinity. He gave her some injections and intravenous fluids for Rs 185. When Phephli did not improve by night, her husband went to the "devra" (village shrine) and made an offering worth Rs 700. Next morning, the family arranged for a jeep, and took her to an ayurvedic dispensary in another village. The vaid there informed them that she had fits, and recommended immediate referral. He initially refused to treat her, but gave her 2 injections following persuasion by family members. Phephli however died within minutes. Seventeen days after her death, her newborn baby also died. This incident occurred in May 2000.

Comment: Phephli probably died due to eclampsia, if one were to go by the symptoms and observation ("fits") of the ayurvedic physician. Even though she had blurring of vision during pregnancy (possibly due to pre-eclampsia), she had not sought antenatal care. Had she received antenatal care, the condition (eclampsia) could possibly have been prevented. Additionally, if a skilled person had attended her delivery, her condition could have been monitored and diagnosed at an earlier stage. After the problem started, her husband did not take her to an appropriate hospital facility (at Udaipur, 60 km away) where she could have received better care. The ayurvedic physician that he first contacted may not have advised referral. Further, fear of the high cost of transport and treatment in the city may have discouraged him from taking appropriate action.

Partudi (35 years), third wife of Dallaram Gameti, lived in a village of tehsil Kumbhalgarh. The village has a government subcentre, an ayurvedic dispensary, and an unqualified practitioner. Partudi had given birth to 6 children, out of which only 2 had survived. She became pregnant for the seventh time. She did not have any prior illness and did not receive any antenatal care. During pregnancy, she suffered cough, heavy breathing and breathlessness. She also lost weight, but did not seek any treatment for these problems. Partudi delivered at home all by herself. The placenta came out in time. After delivery, she became breathless, for which her husband called the local vaid (government ayurvedic physician). The vaid dispensed some medicines and injections and advised that she be taken to Udaipur to manage fluid collection in the lungs. However, the auspicious day for Partudi to be able to leave her home was determined as the 9th day after delivery. She remained at home till 9 days had elapsed, during which time the Vaidraj was again consulted.

On the 10th day Dallaram pawned his wife's jewels for Rs 1000, borrowed Rs 500 from friends, and then took his wife to Udaipur by bus. They reached the city 2½ hours later where treatment commenced - it comprised intravenous fluids, some injections and drainage of fluid from the lungs. However, she did not improve, and died 6 days after admission. Her hospital treatment had cost Rs 1500, and the vehicle to bring her body back to the village cost another Rs 700.

Comment: Partudi did not seek treatment for her problems, nor did a health worker approach her at any point during her pregnancy. She was not taken to the city hospital in time, as per the ayurvedic physician's advice - it appears that a custom related to the auspicious day was partly responsible for the delay. It is however evident that lack of money with the husband was another major deterrent to seeking timely care at the government hospital in the city. There are government schemes for providing free health care to the poor, but Partudi and her family were unable to access them.

Our interventions for preventing maternal mortality have been described in chapter 13. We have used some of these case studies of maternal deaths during sammelans (rallies) and village level meetings in our area, to generate a discussion on the problem of maternal mortality, and to provoke action by community and panchayats.

5.2 Maternal morbidity

Maternal morbidity is commoner than maternal mortality. Studies in India have revealed the occurrence of 16 – 450 instances of maternal morbidity per maternal death^{4, 5}. Direct obstetric complications are usually acute and infrequent and hence cannot be captured through retrospective surveys involving clinical examination of women. An alternative approach is to ask women to recall the occurrence of problems during an interview. Comparisons of self-reports with medical records have shown that women’s perceptions do not provide a reliable estimate of the population prevalence of reproductive morbidities. However, self-reports in response to well designed and well-worded interviews can be a valuable tool for determining the gross burden of obstetric morbidity. Women’s health-seeking behaviour is deeply influenced by their perceptions of morbidity and options for care, regardless of clinical diagnosis. Thus self-reports are critical for understanding how women interact with health services. Moreover, short of all births taking place in institutions and comprehensive data being collected in respect of all deliveries, there is little choice but to continue to use self-reports.

In the ARTH survey, recently delivered women were asked questions related to specific problems occurring during pregnancy, delivery and the postnatal period. Most questions were related to problems likely to lead to maternal death (table 5.6). However a few symptoms indicative of less serious maternal morbidity were also included.

Table 5.6: Symptoms of self reported morbidity related to maternal complications	
Problem	Symptom inquired about
Direct conditions	
Ante-partum haemorrhage	Bleeding during pregnancy
Postpartum haemorrhage	Excessive bleeding during labour / after delivery
Retention of placenta	Delayed delivery of placenta
Prolonged labour	Labour pains more than 12 hours
Eclampsia	Convulsions during pregnancy, delivery or postnatal period
Severe pre-eclampsia	Swelling of face or hands, severe headache, day time blurring of vision
Postpartum infection	Fever and/ or dirty foul smelling discharge after delivery
Indirect conditions	
Anaemia	Breathlessness
Malaria	High fever
Unrelated conditions	
Vitamin A deficiency	Night blindness

⁴ Srinivasa D.K, narayan K.A., Oumachigui A., Roy G., 1997, "Prevalence of maternal morbidity in a south Indian Community: Report of a study" , Department of Community Medicine, JIPMER, Pondicherry

⁵ Datta K.K., Sharma R.S., Razack P.M.A., et al, 1980, "Morbidity pattern amongst rural pregnant women in Alwar, Rajasthan – a cohort study" Health and Population perspectives and issues 3, 4

Problems during pregnancy

More than 40% of women suffered at least one problem during pregnancy (table 5.7). About a fourth were found to have breathlessness, while 11% women reported night-blindness that is indicative of vitamin A deficiency. Pre-eclampsia is difficult to estimate without blood pressure examination, but presence of two or more symptoms related to severe pre-eclampsia (swelling of hands and face, severe headache, blurring of vision) were found in nearly 5% women. Convulsions, which could indicate eclampsia, a very serious illness of maternity, were reported by 4% of women.

Table 5.7: Morbidity (self-reported) during pregnancy		
<i>Problem (n=323 recently delivered women)</i>	<i>Number</i>	<i>%</i>
Bleeding during pregnancy	6	1.9
Swelling of hands or face	20	6.2
Daytime blurring of vision	10	3.1
Severe headache	70	21.7
One symptom suggestive of pre-eclampsia	64	19.8
Two symptoms suggestive of pre-eclampsia	15	4.64
Three symptoms suggestive of pre-eclampsia	2	0.6
Convulsions	14	4.3
Breathlessness	76	23.5
Night blindness	36	11.1
High fever	48	14.9
Number of women who had at least one problem	138	42.7

Problems during labour and delivery: Only questions indicative of a serious problem of delivery (prolonged labour, postpartum haemorrhage, retained placenta and eclampsia) were asked. Nearly one fourth reported one of these problems during labour or delivery table 5.8. Thirteen per cent women reported excess bleeding during labour, indicative of postpartum haemorrhage.

Table 5.8: Morbidity (self-reported) during labour		
<i>Problems</i>	<i>Number</i>	<i>%</i>
Strong labour pains for more than 24 hours	29	9.0
Excessive bleeding at the time of delivery	42	13.0
Delay in delivery of placenta	16	5.0
Convulsions at the time of labour	14	4.3
Number of women who had at least one problem	69	22.0

Problems during the postnatal period: Women were asked about symptoms indicating serious problems (puerperal infection, haemorrhage, eclampsia) of the postnatal period. Eighteen percent of women reported one of these problems, the commonest being fever (table 5.9).

Table 5.9: Morbidity (self-reported) during the postnatal period		
<i>Problems</i>	<i>Number</i>	<i>%</i>
Fever	39	12.1
Excessive bleeding	22	6.8
Dirty discharge	19	5.9
Convulsions	7	2.2
Total number of problems	87	
Number of women who had at least one problem	57	18

At least one of the problems of the entire maternity period (pregnancy, delivery or postnatal period) was found to have affected about 53.6% of women, while about 18.8% were affected by 3 or more problems. While presence of a single symptom cannot be equated to a "morbidity" or "disease", some of these, such as bleeding during pregnancy, are more specific. Moreover the presence of more than one symptom of a condition would probably correlate better with disease.

Perceptions of maternal complications

Perceptions towards seriousness and causes of complications can determine whether women and their families seek care for them and influence their choice of provider and place. Therefore we tried to understand women's perceptions about maternal complications during FGDs.

Perceptions about pregnancy complications: There is limited awareness of health problems arising during pregnancy. Common problems listed by women include body-ache, vomiting, lack of appetite, weakness, abdominal pain, night blindness (which recovers after delivery), prolapse of the uterus (especially if she lifts heavy loads) and sometimes, bleeding. On the subject of complications, there is a common belief that if a pregnant woman slips while climbing a hill⁶, she is likely to suffer serious consequences that might be life threatening⁷. Bleeding in pregnancy (a very serious complication of pregnancy) is also believed to occur in pregnancy if the woman does not arrange in advance for traditional healing rites (*jhara*). Hence a *bhopa* (local faith healer) should be approached in the event of bleeding. When husbands of recently delivered women were asked about danger signs of pregnancy, only 18.4% and 16.8% could correctly mention 2 or more danger signs of pregnancy and delivery respectively.

Perceptions about delivery complications: Women listed the major complications of labour as delayed delivery, urinary retention, unconsciousness and abnormal position of the baby like transverse lie.

Women do appreciate that prolonged labour is dangerous, but they are not sure at what point (i.e. after how many hours) it becomes risky - the waiting period estimated by them appears to be too long for corrective action to be initiated. Once prolonged labour has been recognised, local (unqualified) practitioners or auxiliary nurse-midwives are called in to give injections to speed up labour (probably oxytocics). Women cited a few instances where in some cases of seriously obstructed labour, these unqualified persons used hooks or other instruments to perforate and pull out the head of the foetus.

⁶ The terrain in Kumbhalgarh comprises large ("magra") and small ("magri") hills with rivulets and valleys in between. Such terrain is typical of large parts of southern Rajasthan. The average woman would need to walk 2 to 6 km daily to fetch water, fuel or fodder or to graze cattle.

⁷ Scientific evidence suggests that fall or injury during pregnancy doesn't lead to as serious problems in pregnant women as is commonly believed. It is possible that pregnant women in this rural community fall more often as a result of some other underlying problem such as severe anemia, pre-eclampsia or undiagnosed heart disease, and the resulting serious consequences develop not only due to the fall, but also due to the underlying condition responsible for fall.

The perceived causes of fits⁸ after delivery are weakness, lack of blood in the body and body ache. Some women know that (some) fits can be prevented by a tetanus injection.

Delivery of the placenta is considered very important. Women believe that if the cord is cut before the placenta delivers, it might rise upwards in the abdomen. Another belief holds that cutting the cord too early after delivery might even kill the newborn baby. Hence the cord is never cut until the placenta is delivered. If the placenta does not exit within a few minutes, other techniques are attempted, like making the woman cough while squatting, pushing her hair inside her throat or putting some ash in her mouth in order to make her cough. After few hours a local practitioner is called in to help, and only if he⁹ is unsuccessful is the woman is taken to a hospital.

More bleeding after delivery is considered beneficial for the woman. Women believe that if bleeding stops too soon after delivery, a woman might fall ill. Only if it is very severe is it considered dangerous.

Perceptions about postnatal complications: Participants in focus group discussions felt that common problems during the postnatal period included *gola firma* (a round object moving inside the abdomen), abdominal pain, fever, giddiness, and nausea. Postpartum fever is initially treated using home remedies, and a village practitioner is called if fever continues. This suggests that there is a lack of useful knowledge of complications of postnatal period. FGD participants said that if a woman has a major complication of pregnancy, women of the family and the birth attendant decide on whether she needs referral care. Once men of the house are informed about the complication and the need for referral, they hire a jeep or truck from a village in the vicinity. The cost of the jeep is higher at night because jeep owners take advantage of the family's desperation. In case a jeep cannot be arranged, the woman is carried on a cot up to the bus stop and onwards by bus during daytime.

Treatment seeking behaviour for maternal complications

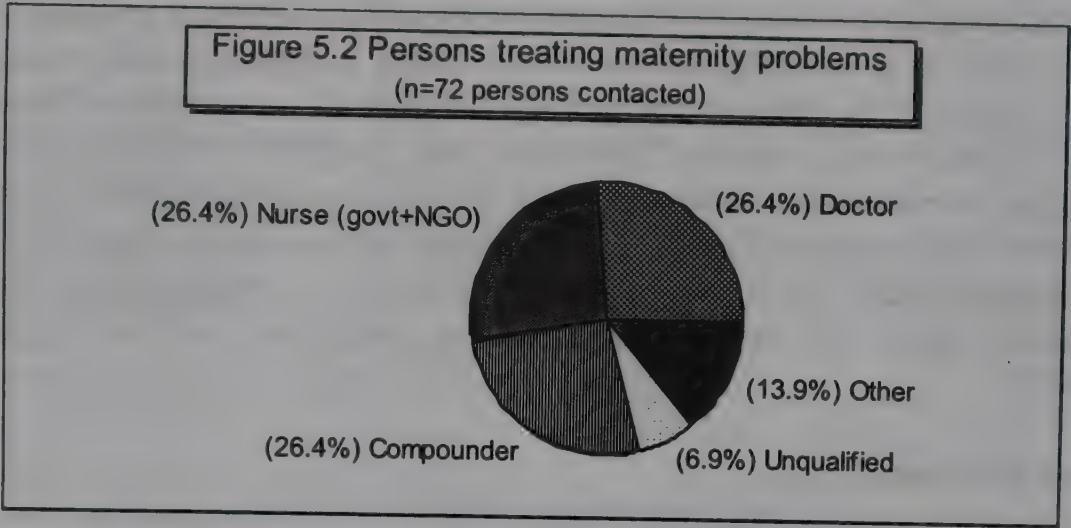
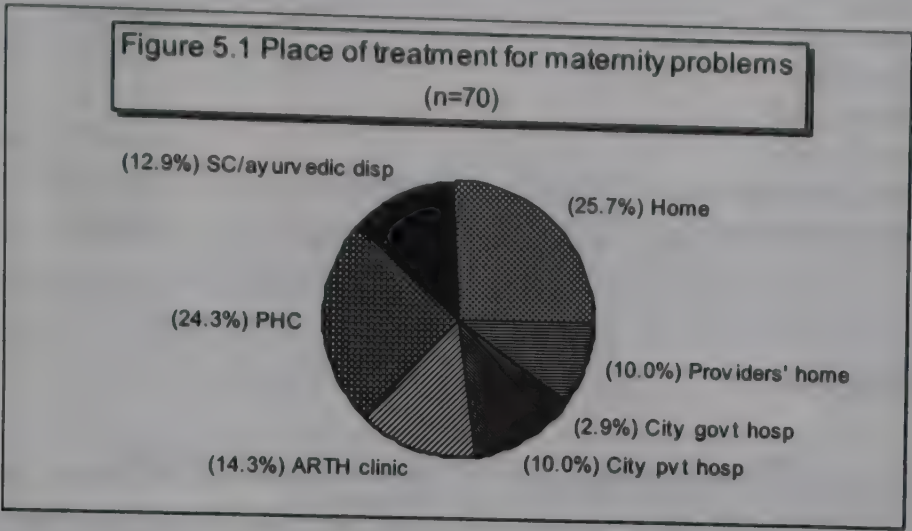
Results from a survey carried out in May 2000 reveal that out of 264 problems reported by 173 women during the maternity period, medical treatment and faith healing were sought in equal proportions by women, while in a few cases, both were tried out.

Table 5.10: Treatment sought for maternity problems (n=264)	
Treatment sought	Number (%)
Medical treatment	52 (19.7)
Faith healing	52 (19.7)
Medical treatment & faith healing	18 (6.8)

Places and persons approached for maternal problems: Most of these consultations occurred at home, or at local health centres (PHC, ayurvedic dispensary, sub-centre or NGO clinic). As seen in figure 5.1, very few women are able to reach the city hospitals for treatment of maternal complications. Persons providing treatment include doctors and nurses in equal proportions. Unqualified persons and compounders (male health workers) who do not

⁸ Convulsions during pregnancy, delivery or postnatal period could signify eclampsia, a very serious condition with very high mortality rate.
⁹ Local, unqualified practitioners of modern medicine are generally male.

receive any training in maternal care are approached by families for a significant proportion (40.6%) of maternal complications (figure 5.2).



Men’s perceptions about emergency treatment: More than two thirds of men correctly knew of at least one danger sign of pregnancy. A majority of men also correctly knew where to go in the event of an obstetric emergency – 73 percent mentioned city hospitals while 21 per cent mentioned the ARTH clinic (which provides obstetric first aid as well as financial and logistic support for quick referral).

Table 5.11: Men’s perceptions of maternal emergencies	
Men’s perceptions	%
Know at least one danger sign of pregnancy	68.4
Know at least 2 danger signs of pregnancy	18.4
Know correctly where to go for a maternal emergency	73
Feel that money should be saved in advance for a delivery	96.5

Although most men know correctly where to go, their estimate of the amount of money to be carried along while seeking emergency care appeared to be high (table 5.12). Quite obviously, this estimate has evolved from past experience of seeking emergency care among people of the area – the amounts are high even though care is most often sought from government hospitals, and are likely to deter poor, tribal families from seeing care.

Table 5.12: Men's perceptions regarding money required for seeking emergency maternal care	
Amount required (Rupees)	Respondents (%)
<1000	61 (27)
1001-3000	58 (25)
3000-5000	56 (25)
Above 5000	38 (17)
Don't know	15 (7)
Total (n=228)	228 (100)
Median amount	3000

5.3 Antenatal care

In recent years, there has been debate on the effectiveness of antenatal care. Although it has been realised that antenatal care is not effective to predict all complications which may develop later during delivery or postnatal period, but there is consensus that it should be provided to all pregnant women and is meant to serve following purposes: Detect some complications (such as pre-eclampsia anaemia, multiple pregnancy, abnormal presentations) and manage them, so that they do not develop into life threatening conditions; treat minor problems of pregnancy e.g. nausea, epigastric pain; improve overall nutritional status of women including prevention of anaemia; giving her tetanus immunisation; educating her and her family about danger signs of pregnancy, delivery and postnatal period and discussing the place of delivery and birth attendant. We collected data on coverage and quality of antenatal care, perceptions about diet and workload during pregnancy and men's participation in antenatal care.

Coverage of antenatal care

Service utilisation by women during pregnancy has been summarized in table 5.13 & 5.14. Although over half the women reported having met a nurse or ANM during their last pregnancy, less than a third reported having undergone an antenatal check-up as per the end-line study in 2000. Almost thirty per cent women received one antenatal check-up while 13 per cent women received the prescribed complement of 3 antenatal checkups. Women in this area receive tetanus injections from various providers, resulting in higher coverage of tetanus immunisation as compared to antenatal check up. Over half the women received iron tablets. Most women actually consumed these for a median duration of 60 days.

Table 5.13: Antenatal care coverage (per cent)		
Indicator	Baseline study, 1997-8 (%)	End-line study, 2000 (%)
	(n=118)	(n=323)
Met nurse/ANM during pregnancy	29	52
Received at least one TT injection	34	56
Received two doses of TT injection	28	40
Received iron folate tablets	33	52
Consumed iron folate tablets	31	45
Median duration of iron intake (among those who consumed)	NR ¹⁰	60 days
At least one antenatal check-up	NR	30
At least 3 antenatal visits	NR	13

¹⁰ NR=not recorded

Providers and places of antenatal care: Doctors, nurses, male health workers, and unqualified providers are contacted during antenatal period, but nurses are contacted most frequently (table 5.14). The most frequent place for antenatal check-up is a city hospital, followed by the woman's home, NGO clinic, and PHC. Less than one per cent women use sub-centre facilities for antenatal care.

Quality of antenatal care

We enquired from pregnant women about the specific components of antenatal care they received. Not all women who received antenatal care underwent blood pressure measurement, examination of abdomen, eyes, blood, and urine (table 5.15). This indicates that although pregnant women do come in contact with service providers, very few undergo the minimum essential check-up required for detecting maternal complications.

Table 5.14: Antenatal care provider and place		
	<i>Baseline study, 1997-8 (n=118)</i>	<i>End-line study, 2000 (n=323)</i>
Type of antenatal care provider		
• Doctor	11 %	17.6 %
• Nurse/midwife	29 %	52.3 %
• Male health worker / unqualified practitioner / other	3 %	10.2 %
Mean gestational age at first contact	5 months	5 months
Place of antenatal check-up		
• City hospital	NA ¹¹	10.5 %
• Government PHC	NA	7.4 %
• Government sub-centre	NA	0.6 %
• NGO clinic	NA	7.7 %
• Monthly village level health camp	NA	0.6 %
• Woman's home	NA	8.9 %

Table 5.15: Quality of antenatal check up (Percentage women receiving individual components)		
<i>Component</i>	<i>Baseline study, 1997-8 (n=118)</i>	<i>End-line study, 2000 (n=323)</i>
BP check-up	10	29
Weight	11	20
Abdominal examination	14	33
Eye check-up	NR	27
Blood test (for haemoglobin)	12	27
Urine test (for albumin)	10	22

Our experience at clinic and outreach program also revealed that antenatal care tends to be incomplete. Providers -- both paramedics and unqualified practitioners -- tend to give only tetanus injections and iron tablets as part of antenatal care. There also appears to be little effort by clients to demand more complete services. We therefore asked men about the components of an antenatal check up. More than half the husbands were not aware as to what component examinations should be carried out (figure 5.3). Of the rest, most knew of only one or two components. As seen in table 5.16, very few knew that blood pressure estimation and blood test for haemoglobin estimation are necessary. Better awareness on part of women and their husbands about essential maternal care would enable them to demand

¹¹ NA= Not assessed

more complete services. The poor quality of antenatal care is also reflected in findings from verbal autopsy of maternal deaths, detailed above in section 5.1 of this chapter.

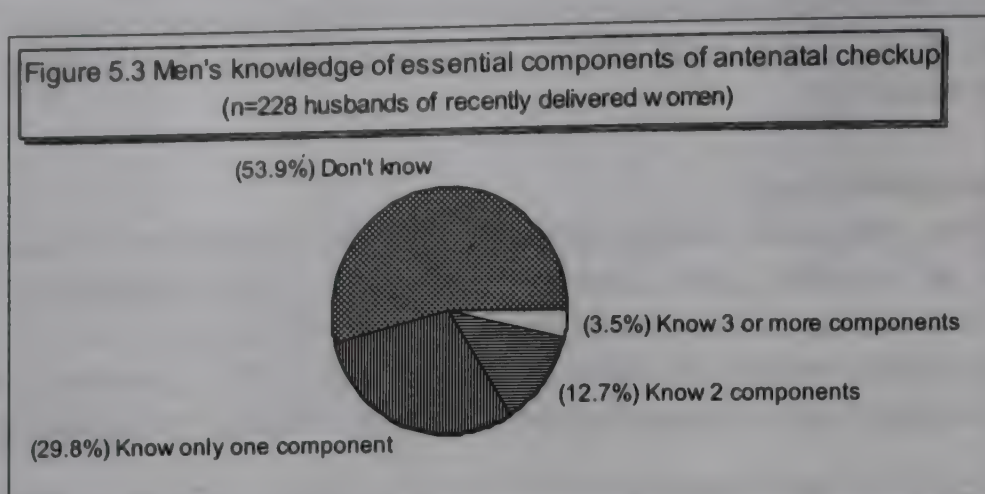


Table 5.16: Men's knowledge of antenatal care		
Components of check-up (total n=152 components mentioned by 105 men)		
	Number	Percent ¹²
Abdominal examination	88	38.6
Foetal heart sounds	30	13.1
Blood test	16	7.0
Urine test	15	6.5
Blood pressure	1	0.4
Weight	2	0.8
What care should be given (total 365 responses by 228 men)		
More diet	132	57.9
Rest	93	40.8
Iron tablets	47	20.6
Tetanus injection	40	17.5
Other	53	23.2

Diet during pregnancy

Women believe that if a pregnant woman eats more, the extra food reduces the space available for the baby to grow. A pregnant woman should therefore eat less. A parallel view within the community is that if a pregnant woman were to eat less the baby would find more place to grow and thereby make delivery difficult. Eating more therefore keeps the baby small and easy to deliver. There is a strong belief that if a pregnant woman were to consume white items such as curds, buttermilk, *ghee* (clarified butter), *til* (sesame seeds), peanuts or bananas, they might get deposited on the foetus as a thick white layer¹³ resulting in the child getting stuck during delivery.

After delivery, the woman gets a special diet that includes jaggery water fortified with clarified butter, some special spices (*ajvayan*, *sonth*, *gond*), porridge, and buttered *roti* (unleavened bread). She is not allowed salt, pepper or sour items. The amount of clarified butter (*ghee*) given to the mother is considered to be an important indicator of the richness of her diet and in turn depends on the family's financial situation and desire to spend on the woman. It is believed that if a woman does not get enough *ghee* after delivery, her health would be adversely

¹² Percentages do not add up to 100 because of multiple responses

¹³ The reference by women is to vernix caseosa, a layer of cheesy material which coats the fetus during late pregnancy, lubricates it during delivery and physiologically protects it from infection

affected. Given the high caloric value of ghee, this practice is expected to improve a woman's nutritional status soon after delivery.

Findings from end-line survey revealed that about one-fifth women had received food supplement at least once during the last pregnancy from the local anganwadi (table 5.17). Most of those who received food supplement, did so on a regular basis (once a week). The majority of such women shared their supplement with family members, thereby reducing the individual benefit to themselves.

Service	(Baseline study)	(End line study)
Received food supplement at least once	8.5	19.2
Frequency of receiving food supplement		
• 1-2 times during the entire pregnancy	NA ¹⁴	2.1
• 1-2 times a month	NA	4.0
• Every week	NA	13
Consumption of food supplement	NA	
• Usually	NA	12.4
• Occasionally	NA	3.4
• Never	NA	3.4
Sharing of food supplement	NA	
• With one or more family members	NA	15.1
• With animals	NA	1.9
• Nobody else	NA	2.2

Work and rest during pregnancy

As in most other rural areas of the state, women in Kumbhalgarh shoulder a heavy burden of household and agricultural work, apart from working for wages. Heavy manual labour is detrimental to both, the mother and the developing foetus. We therefore inquired about the work women carry out during pregnancy. We found that a pregnant woman does not get any additional rest during pregnancy – she continues with all her routine duties (grinding, fetching water, fodder and fuel, washing and cooking, etc). It is believed that if she does not work as before, blood might stagnate in the body, making delivery more difficult. Manual work “opens up” the body - some strenuous (and evidently energy depleting) activities like hand grinding on a stone mill (*chakki / ghatti*) are considered to be especially beneficial.

Even when women are aware of the need to avoid heavy work during pregnancy, they are unable to do so because there is one to help them, especially in their marital home. Some rest might be possible in the parental home, hence many pregnant women return to their parents' house for at least some part of pregnancy.

Men's role in sharing the wife's work burden: We inquired about men's role in relieving their wives' work burden during pregnancy and puerperium. Men were asked as to what they consider as heavy work for a woman. Over a fifth – 21% did not consider any kind of work as being heavy. Responses from the remaining 79 per cent men were ranked, based on their frequency (table 5.18). The frequency of responses probably reflects men's perception of both the “heaviness” of the work activity as well as how commonly a woman needs to carry it out.

¹⁴ NA= Not assessed

Table 5.18: Ranking of men's responses about "heavy work for a woman"	
<i>Type of work</i>	<i>Rank</i>
Lifting heavy items	1
Fetching firewood	2
Agricultural labour	3
Other household work (washing, cleaning, etc)	4
Manual wage labour (on farms, mines, famine relief works, etc)	5
Looking after cattle	6

Nearly a third of men admitted that nobody had helped their wives with work during the last pregnancy (table 5.19), while about half did provide some assistance to relieve her burden. We were unable to judge the extent to which sharing of work by men and other family members made a difference to the workload of pregnant women.

Table 5.19: Helping pregnant women with household and other work (n=228)	
<i>Who helped your wife with her work, when she was pregnant</i>	<i>% respondents</i>
No one helped	29.4
Husband helped (with or without other family members)	53.5
Other family members (but not husband) helped	17.1

Men's knowledge and participation in antenatal care

The survey of husbands of recently delivered women revealed that 20 per cent do not regularly live in the village - they live in cities or towns for the purpose of employment. Wives get little support from such absentee husbands. Among the 228 husbands who were interviewed, about half said that they had advised their wives to receive antenatal care. Less than a third had actually accompanied their wives for a single antenatal check up.

Table 5.20: Husbands' participation in wife's antenatal care	
<i>Men's role in helping women access antenatal care (n=228)</i>	<i>% respondents</i>
Advised wife to go for antenatal care	56.1
Advised wife to receive tetanus injection	52.2
Aware that wife did receive at least one antenatal check up	51.3
Accompanied wife for at least one antenatal check up	28.9

The 111 men who reported that their wives did not go for antenatal care, were asked about the reasons. The majority (82%) felt that she had no health problem, while the rest mentioned distance from the hospital, their own absence or lack of money. Men were also asked about the need for antenatal check-up - most men carry the impression that a check up is required during pregnancy only if a woman has a problem (table 5.21). This is likely to adversely affect the kind of advice and support that a husband would provide to his wife, to enable her to receive antenatal care.

Table 5.21: Men's perception of need for antenatal check-up	
<i>Need for antenatal check up</i>	<i>% men</i>
No need for check-up	3.1
Check-up necessary even if no problem	38.6
Check-up necessary only if a problem occurs	58.3
Total (n=228)	100

5.4 Labour and delivery

It has been recognised that one of the key interventions to reduce maternal mortality is presence of a skilled birth attendant at the time of delivery, so that life-threatening complications can be detected and managed before a referral can be arranged. Information was therefore collected about the birth attendant and facility during baseline and end-line surveys.

Birth attendant and facility

Nine out of every 10 women delivered at home (table 5.22). As expected for an isolated, rural community, the caesarean section rate is very low, as compared to the minimum expected level of 5% as estimated by the WHO. Nearly half the deliveries are conducted by TBAs, and another one third by relatives. There was an increase in the proportion of deliveries conducted by TBAs over three years, in line with project interventions involving TBAs. Skilled birth attendants¹⁵ conducted only about one tenth of all deliveries.

Table 5.22: Care during delivery (percent)		
	Baseline study, 1997 (n=118)	End-line study, 2000 (n=323)
Place of delivery		
• Home	95	88.2
• Hospital/ health centre	5	11
• On the way to hospital, in vehicle	0	0.6
Caesarean section rate	NA	0.3
Birth attendant		
• Relative/ neighbour	55.1	34.7
• TBA	35.6	49.5
• Male health worker/ayurved	0	4.3
• Nurse	4.2	1.8
• Doctor	5.1	7.7
• Self		3.0

Those delivering at hospital almost always belonged to “upper” castes -- 29.5 per cent women belonging to these castes delivered in a hospital in comparison to 1 per cent belonging to scheduled castes or tribes. This indicates a significant difference in health care utilisation between different socio-economic groups.

Since men's views are likely to influence the choice of place and birth attendant for delivery, we inquired from men as to who should be called home for a delivery. Ninety three per cent mentioned a TBA or relative, the rest mentioned nurse, doctor or compounder (table 5.23). A larger proportion of men, however think that a skilled person should conduct delivery in case a problem has occurred during the previous delivery - 35.5% mentioned a city doctor, 43% mentioned a nurse and 16.2% mentioned a village doctor.

¹⁵ The term “skilled attendant” refers exclusively to persons with midwifery skills who have been trained to proficiency in the skills necessary to manage normal labour and deliveries and diagnose the onset of complications, perform essential interventions, start treatment and supervise the referral of mother and baby for interventions that are beyond their competence or not possible in that setting. They include persons such as doctors, nurses and ANMs, but excludes relatives and trained TBAs (Reduction of maternal mortality, A joint WHO/ UNICEF, World bank statement, 1999)

Table 5.23: Men's perceptions about birth attendant

	If no complication had occurred during previous pregnancy or delivery	If a complication had occurred during the previous pregnancy or delivery
Relative /TBA	93.9	4.8
Unqualified /compounder	1.3	3.5
Nurse	3.1	43.4
Doctor	1.8	48.2

Men's understanding of whom to contact for delivery was clearly influenced by the availability of providers in the area – poor access to skilled birth attendants led them to believe in doing without them. However, it was apparent that they perceived nurses and doctors to be more capable on dealing with adverse conditions.

Hygiene during delivery

Since poor hygiene during delivery is known to predispose to puerperal infection, we assessed relevant practices for home deliveries. Survey findings (1998) showed that ninety five per cent of home deliveries occurred in the family room and 5 per cent in the room meant for cattle (table 5.18). Among those who delivered at home, 96 per cent lay on mud floor of their houses with a wall for support. Almost half of these did not use a sheet beneath themselves. Even if used, the sheet may not always be clean – it commonly is a jute sack (*boni*) or old rug (*gudri*)

Table 5.24: Hygiene and other practices during home delivery

Indicator	Baseline study (n=112)	End-line study (n=284)
Surface		
• Jute sack / Thin mattress (<i>gudri</i>)	50.9	33.1
• Sheet		15.1
• Nothing	49.1	51.8
Material for cutting cord		
• Blade from disposable delivery kit	2.5	63.4
• Knife/ home blade	86.1	29.6
• Sickle	5.1	3.9
• Other/ don't recall	6.3	3.2
Material for tying cord		
• Thread from disposable delivery kit	1.8	61.3
• Sacred thread (<i>laccha</i>)	67.0	30.6
• Other thread	26.8	8.1
• Don't recall	4.5	0
Pelvic examination	25	26.1
Use of gloves by birth attendant during delivery	Nil	30.3
Injections during home deliveries	4.4	4.6
Intra venous fluids during home deliveries	NA	2.8

Although most relatives do not insert their fingers into a woman's vagina to monitor the progress of labour, TBAs or other experienced women often do. Our survey revealed that during home deliveries, 25 per cent women were subjected to pelvic examinations by relatives or TBAs with unwashed, un-gloved hands using mustard oil as lubricant. Until delivery occurs, TBAs may examine a woman 2-3 times in this manner, to estimate how long it will take. Women had some idea that dirt from unwashed hands could result in problems - they listed abdominal pain, tuberculosis and severe constipation among the potential

consequences. They however lacked the confidence to tell the birth attendant to wash her hands, while their mothers-in-law did not see the need to intervene.

The baseline survey revealed that most women had not heard of the disposable delivery kit being promoted by the health and family welfare services. The disposable delivery kit had been used in 2% home deliveries. For tying the cord, the majority (67 per cent) had used a traditional *laccha* thread, used otherwise for religious ceremonies. For cutting the cord, 82 percent used an ordinary, new or used blade, while fewer used a sickle (5 per cent) or knife (4 per cent). The end line survey revealed a significant improvement in delivery hygiene, centred on the use of a disposable delivery kit, sheet and gloves by domiciliary birth attendants.

Use of hospital facility

Thirty-seven women (11.5% of all recently delivered women) sought inpatient hospital care. Of these, 18 did so for a perceived complication (table 5.25). These in turn constituted 5.6% of all women who delivered during the reference period. However their perception often did not fit with accepted symptoms of danger signs. We inquired about the reason for hospital care, the decision-making process and cost.

Type of hospital: Women went to government hospitals in the city most often (14), followed by a city private hospital (12), a local PHC or ayurvedic dispensary (9) or NGO (ARTH) clinic (2). Those who went for an unanticipated complication utilised government facilities more often, whereas those who had decided in advance to deliver in a hospital went more often to private institutions.

Table 5.25: Reasons for seeking inpatient maternal care in a hospital (n=37)		
Reason for hospitalisation	Number	%
Planned hospital delivery	19	51.4
Did not deliver at home despite labour pains	8	48.6
Woman became very weak	3	
Bleeding or leakage of fluid per vaginum	3	
Breech presentation	1	
Other	2	
Total	37	100

Decision-making and transport: In almost seventy percent of cases, the opinion or advice to go to a hospital was that of a family member or woman herself, while for 30 percent women it was a health provider such as doctor, nurse or compounder. The final decision to go the hospital generally involved more than one person including the husband (76%), the woman herself (57%), mother or mother-in-law (16%), father or father-in-law (13%), and others (8.1%). For reaching the hospital, various modes of transport were used depending on the distance to the facility and emergency of situation (table 5.26).

Table 5.26: Mode of reaching hospital		
Mode of travel	Number	%
Jeep/ truck	17	43.2
Public bus	8	27.0
Other ¹⁶	7	21.6
Walked (to nearly health centres)	5	21.6
Total	37	100

A total of 90 persons accompanied 37 women - an average of 2.4 persons (median 3) per woman. These women were admitted in the hospital for a mean duration of 5.4 days (median 2 days). The cost of hospital inpatient treatment as recalled by respondents has been shown in table 5.27.

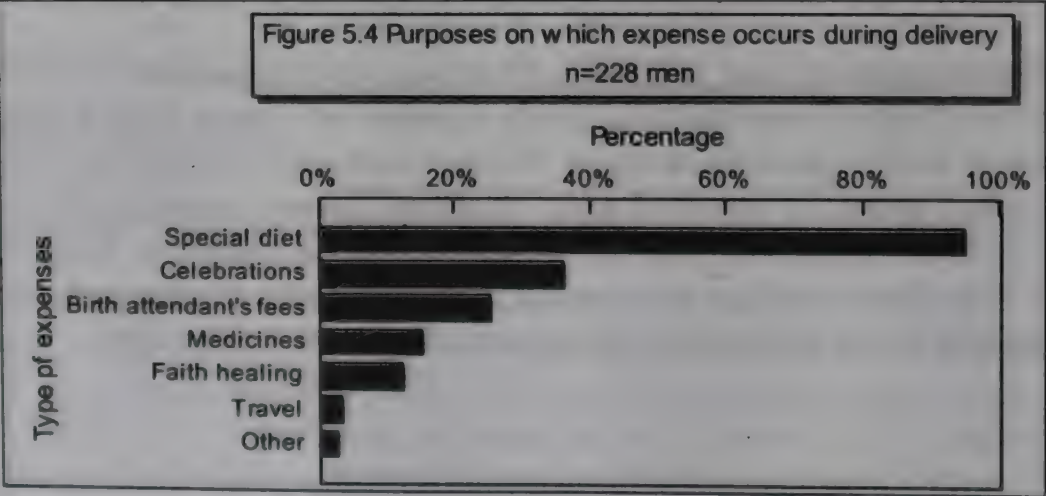
Table 5.27: Cost of inpatient hospital care	
Type of facility	Median cost Rs (range)
Private hospital in city (n=8)	4750 (range 2000-150,00)
Government hospital in city (n=11)	2000 (range 1000-9000)
Government PHC or Ayurvedic centre (n=7)	550 (range 250-1000)
Total (n=26, excludes 11 women who don't remember cost of treatment)	2000 (range 250-150000)

While interpreting data on cost of hospital care in table 5.27, the recall period of up to 2 years must be borne in mind – the total cost of treatment as reported by respondents was at best, an approximation. One may nevertheless conclude that

- ⇒ the cost of hospital treatment was quite high, when compared to the daily wage rate (Rs 45-60) earned by the landless and marginal farmers. High cost therefore appears to be an important reason for low rates of institutional delivery and low utilization of hospitals for complications.
- ⇒ the cost of treatment at private hospitals was much higher than that at government hospitals
- ⇒ the cost of managing maternal complications was much higher than that for a routine delivery.

Expenditure on delivery

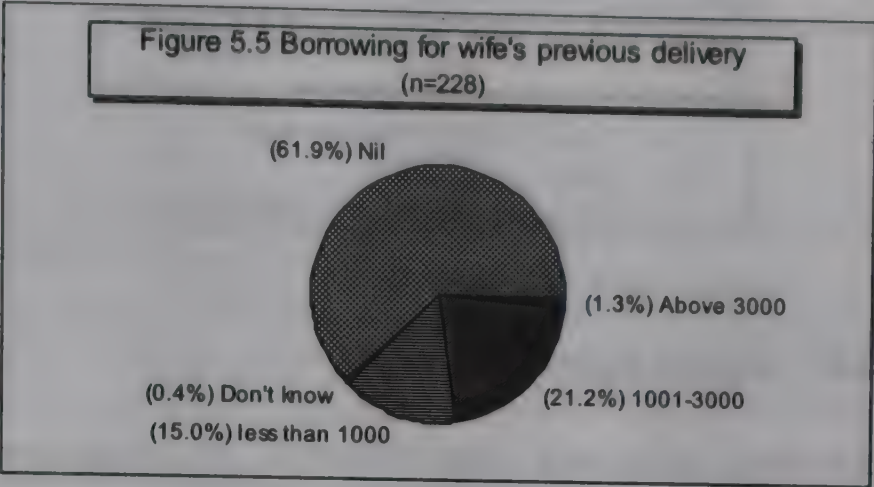
As recalled by husbands, the median amount actually spent on the last delivery was Rs 2000, with a range of Rs 400 to 30,000. This money was spent on various purposes such as health providers fees, medicines, faith healing, special diet and medicinal herbs given to the woman, the husband's celebrations after delivery and travel.



¹⁶ Includes auto-rickshaw, moped etc. for travel from the residence of relatives or friends living in the city to the hospital in case of those who reached the city a few days before delivery

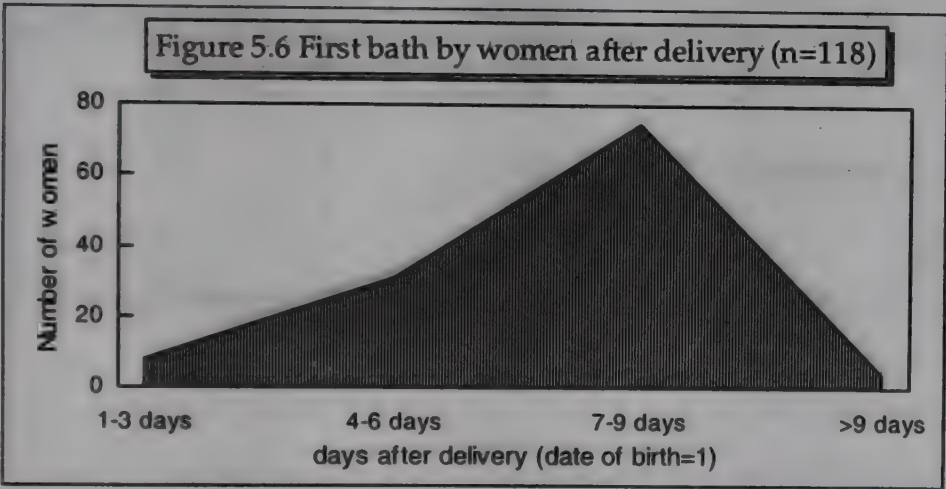
These categories have been depicted in figure 5.4 in the order of frequency of expenditure. Expenses on medicinal herbs and medicines are meant directly for the women's welfare, whereas celebrations by the husband commonly involve the serving of meat and liquor at considerable cost and no direct benefit to the woman or her newborn baby.

As seen in figure 5.5, a significant proportion (38.1%) of men borrowed money for their wife's last delivery. The median amount in such cases was Rs 1500 (range 200-12,000). Money was borrowed from village moneylenders (43%), friends or neighbours (16%) or family members (41%).



5.6 Postnatal care

Sixty per cent of all maternal deaths take place during postnatal period (up to 6 weeks after delivery). However, service providers have traditionally paid little attention to this period as compared to the antenatal and delivery periods. Families impose restrictions on women's activities, diet and mobility after delivery; hence it becomes even more crucial that a nurse or midwife visits women soon after delivery. As seen in table 5.28, less than a fifth of women were visited by a nurse during this period.



Depending on the auspicious day chosen for the prayer (*suraj puja*) ceremony, the woman bathes on the 5th, 7th or 9th day after delivery. Till this day, a woman's clothes are not washed, and she does not bathe (see figure 5.6). The median interval between delivery and first bath by the mother is 7 days. Very few (0.9

percent) women bathe on the day of delivery. Although the relation between sanitary protection during puerperium and infection of the genital tract is not well established, lack of hygiene is expected to increase the risk of infection. Immediately after delivery, although 61 per cent women did use a piece of cloth or cotton by way of sanitary protection, the rest (39 per cent) used nothing at all to soak lochia and secretions, thereby exposing themselves to a greater risk of puerperal infection.

There are severe restrictions on women's mobility after delivery. It is believed that a woman's body is very vulnerable to the external environment during this period ("*kaccha sharir*"); hence exposure to the air outside would make her fall sick. Till about 5-9 days after delivery, when a prayer ceremony ("*Suraj Puja*" or Sun worship) is held, the woman does not step out of the

room and does not see the sun. Even after sun worship, she does not go out of the house for 10-15 days. If she absolutely must go out, she goes well wrapped.

Table 5.28: Care during the postnatal period		
Indicator	Baseline study	End-line study
% visited by a nurse in first month after delivery	16	18
Timing of first bath after delivery (median)	7 days	7 days
Sanitary protection after delivery		
• No sanitary protection used	39	50.6
• Cloth	61%	36.6
• Other items (cotton, sanitary pad)		12.7

5.6 Equity in maternal care

Scheduled tribes and castes constitute the marginalised majority in the southern part of Kumbhalgarh block. Our data revealed significant differences in the utilisation of maternal health services by scheduled castes/ tribes (SC/ST) and other ("upper") castes. Far fewer women (15.4%) belonging to SC/ST groups received an antenatal check-up, as compared to women from other castes (54%). Tribal community or scheduled caste women were also less likely to deliver in an institution (1%) than women from other castes (29.5%). By contrast, following active promotion and distribution by village volunteers, the use of disposable delivery kits and gloves for hygienic home delivery was commoner among SC/ST women. This is related to extra effort directed towards these groups by ARTH's field programme.

Table 5.29: Difference in maternal care coverage among tribal and non tribal communities (percentage)		
Maternal care indicator	SC/ST (%)	Other castes (%)
Received Antenatal care (at least one visit)	15	53
Tetanus immunisation	43	76
Institutional delivery	1	29.5
Medical treatment for pregnancy & postnatal antenatal complications	24	53
Faith healing for maternal complications	33	17
Borrowing for delivery	47	25

5.7 Summing up...

- Rajasthan's maternal mortality ratio, estimated at 677 deaths per 100,000 live births, is among the highest in the world. Lack of appropriate care during pregnancy and delivery, especially the lack of skilled birth attendants for detecting and managing complications, underlies most maternal deaths.
- The utilisation of maternal health services is low. Nearly half the women do not have any contact with health providers during pregnancy. Problems exist on both, demand and supply sides. There is widespread perception that antenatal care should be sought only if a problem occurs during pregnancy. On the supply side, services are unreliable and often of poor quality, and tend to omit many essential components. Pregnant women may not get enough food because of taboos, while ICDS (anganwadis) food supplementation benefits less than one-fifth women. Continuation of strenuous physical activities till late pregnancy

and resumption of work soon after childbirth, contributes to high levels of malnutrition among women.

- Skilled birth attendants are largely inaccessible in villages -- relatives or TBAs conduct most deliveries. Hygiene during home deliveries is poor, but families are willing to follow clean procedures, if items such as disposable delivery kits and gloves are made accessible. However, in event of an emergency, families delay decision of going to distant city hospitals because of lack of transport, high and uncertain expenditure, fear of being cheated and negative attitudes of hospital staff.
- Care during the postnatal period (during which most maternal deaths occur) by skilled persons is almost non-existent. Traditional restrictions on women's mobility during this period also deny emergency care to some women.
- Men's participation in their wives' care during pregnancy and childbirth is limited - nearly 20% husbands do not live in the village, and even those who are around may not be of much help in terms of sharing household work or accompanying them for antenatal services.
- There is a wide gap in the utilisation of maternal health care services among between marginalized tribal/ scheduled caste and other communities. This calls for a differential approach in delivering health services within heterogeneous communities, with greater focus on underserved groups.

Abortion

6.1 Abortion providers in Kumbhalgarh

Legal abortion services were inaccessible within Kumbhalgarh block in 1997 when ARTH began working there. The community health centre at Kelwara and the PHC at Reeched lacked trained doctors and/or a complete set of equipment. ARTH's own facility was certified after an arduous two-year process, in Dec 1999. Starting in 1997, we therefore inquired at group meetings and from women attending the clinic, about options available to women with an unwanted pregnancy. Where possible, we made further inquiries based on the initial information. This included sending mystery clients to a chemist's shop and to an unqualified practitioner. Our findings have been summarised below.

1. *Unqualified village practitioners*: These are popularly known as "Bengali doctors" because most of them appear to hail from Bengal. They live and work discretely in the village without a name-board and tend to avoid meeting persons in authority or from outside the area. We learnt that these persons are generally untrained, having acquired skills through apprenticeship with other similar practitioners. They administer injections and intravenous fluids for different ailments. Some of these practitioners carry out abortions by using uterine procedures (perhaps D&C) and injections. They also give tablets to women who have missed periods.
2. A few *TBAs* attempt abortion by inserting herbs and roots into the uterus. Women volunteers were able to recount instances of serious complications and death following abortion performed by such TBAs (see box below).
3. *Government paramedics*: Some ANMs and LHVs are known to give tablets to women who have missed their periods. We later learnt that they give out oral contraceptive pills for this purpose. They sometimes insert a Copper-T after the woman reports with a missed period, in order to terminate the pregnancy. The use of both oral pills and IUDs in this manner represents confusion of emergency contraception with abortion.
4. *Vaids, chemists and male health workers*: Local Ayurvedic practitioners, chemists and male health workers reportedly give tablets during early pregnancy in order to bring about a period. From a local chemist's shop, a mystery (decoy) client was able to purchase a herbal drug called "EP forte". The packing listed herbal ingredients but no hormones, while the label mentioned, "not to be used during pregnancy".
5. *CBD volunteers*: ARTH has trained local village women to distribute pills and condoms. Many such volunteers assumed that since the pills had contraceptive effects, they might additionally be able to cause abortion. Hence they distributed pills to some women who had missed their periods. However, with repeat training and field level monitoring, the practice was stopped.
6. *Home remedies*: The first thing some women do on missing a period is to try home level remedies which include decoctions made of clove and jaggery. A few women become desperate enough to inflict blunt abdominal trauma upon themselves by using the solid-iron pestle found in most households ("moosal")

Nanki bai, an ARTH volunteer recounted: "I had visited a local TBA, who carries out abortions few years ago when I was 5 months pregnant. I went to her because I already had 4 children and I didn't want to continue my fifth pregnancy. The abortionist inserted a creeper inside my uterus, and sent me back. Within 2-3 hours, even before I reached home, I started bleeding. After this, I bled continuously for more than a month. I became so weak that I almost died, but fortunately recovered".

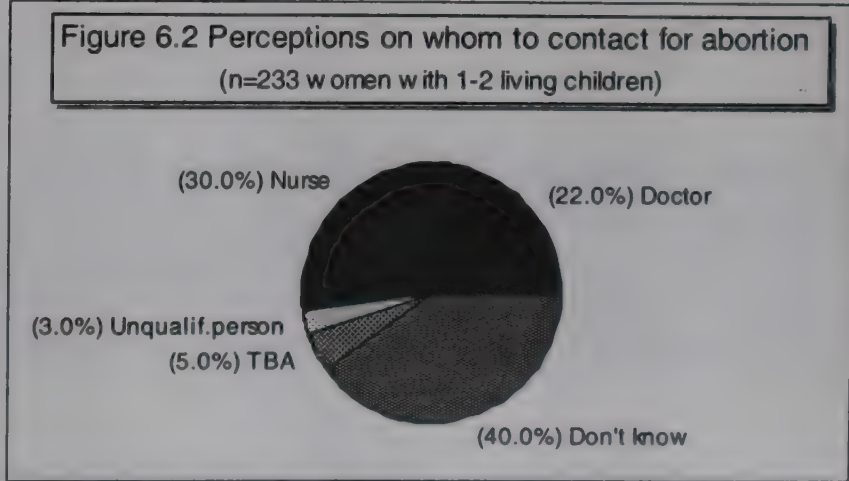
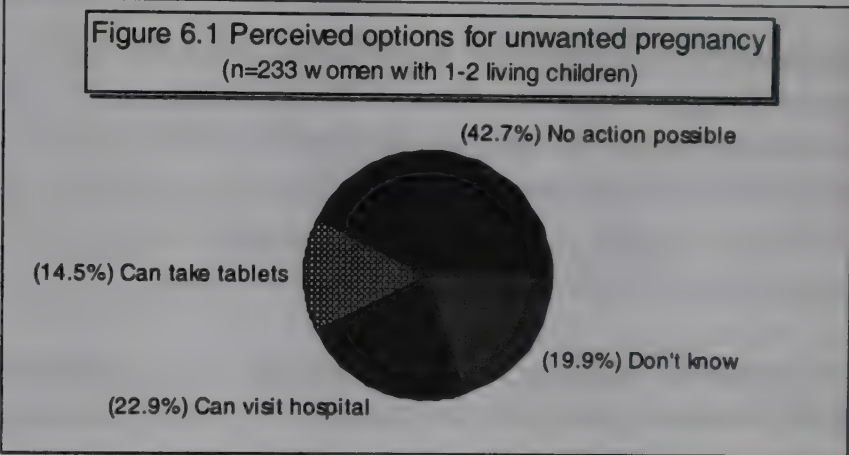
Volunteers also cited the case of another woman who went to a TBA for an abortion. She had gone to the abortionist at 3-4 months. The foetus died after the intervention, but placenta did not come out for many days. She became very sick and weak. Three to four women tried to take out the placenta by putting their hands in, but were unsuccessful. Later a local unqualified practitioner ("Bengali doctor") was called in. He put his hand inside her uterus and took out the placenta in a piecemeal manner. The smell was so foul that the "doctor" had to cover his nose and mouth during the procedure. He charged Rs 1500 for his services.

A woman went to a local abortionist with 5-6 month pregnancy. She tampered with her uterus, following which the foetus died inside, but did not come out. The woman became very sick and her body started swelling up. She went to an ayurvedic practitioner in a neighbouring village, with complaint of pain in abdomen, but did not inform him about the attempted abortion. The doctor treated her, but perhaps did not realise that it was a complication of abortion. She died after a few days.

6.2 Perceptions on availability of abortion

Most women living in villages of the field area did not consider elective abortion in a health facility as an option for dealing with unwanted pregnancy. Our survey conducted in beginning of 1998 revealed that fewer than one fourth women were aware that a woman with an unwanted pregnancy could seek abortion in a hospital (figure 6.1). Most women think that no action is possible, while some think that they can take tablets to bring about a period. The belief that tablets should be taken for unwanted pregnancy is very strong, and is corroborated by inquiries from clinic clients about past treatment for missed period (chapter 12).

Lack of trained doctors in rural areas and low awareness influence women's perceptions of who should be approached for an abortion - less than a fourth mentioned a doctor (figure 6.2).



Few women considered elective abortion to be a legal procedure – while 11% thought it is actually illegal, another 68% did not know about its legality. This level of awareness about the law, facilities and providers is likely to influence women’s decision on which provider to approach. Even if legal facilities were to be available, women might prefer unlicensed providers. Providers may also exploit the impression that women seeking abortion are trying to commit an illegal act, by increasing the cost of services.

Men’s understanding of abortion services was not found to be significantly different from that of women. During a survey carried out in 2000, husbands of 228 recently delivered women were asked as to what a woman could do if she did not want a pregnancy. Only a third mentioned that she could go to a hospital or health centre for an abortion (table 6.1). Their awareness of the legality of abortion was also limited - only 24 per cent men considered it as legal.

Table 6.1: Men’s perceptions of options for unwanted pregnancy (n=228 men)	
Options for a woman with unwanted pregnancy	% respondents
Can take tablets	38.2
Can use herbs	1.8
Can evacuate the uterus at a hospital	39.9
Must continue the pregnancy	3.1
Don’t know	17.1

6.3 Summing up...

Kumbhalgarh is typical of rural areas of north India in terms of availability of abortion services. Despite legalisation in 1972, legal pregnancy termination services were not available in an entire block, at least till December 1999. The need for abortion has been filled by a variety of untrained or unlicensed persons who provide clandestine services of poor quality. In the absence of proper services, women and men perceive abortions to be illegal and are only aware of those unsafe, illegal or ineffective options as are locally available to them.

Our experience of providing abortion services, information on the profile of abortion seekers and their treatment-seeking behaviour has been presented in chapter 12 of this monograph.

Gynaecological Morbidity

The end-line study tried to assess the extent to which women suffer from symptoms suggestive of gynaecological morbidity. Since the study did not include clinical and laboratory examination, our findings do not represent the true prevalence of gynaecological morbidity. However, the purpose of our inquiry was to understand women's health seeking behaviour in relation to their self-reported gynaecological symptoms. In this way we hoped to comprehend the burden of ill health that women suffer and their means to cope with it. We additionally felt that certain factors made it more likely that women would report their symptoms with reasonable accuracy during the survey:

- ARTH has been working in the area for 3 years and enjoys rapport with the community. Its staff has regularly organised meetings to seek the views of local panchayat leaders and other prominent persons, on its mandate and activities.
- ARTH's rural RCH clinic has been providing regular, biweekly services to women of the area. Studies¹⁷ have recognised that in areas with poor access, the assured availability of appropriate medical care to address a respondent's reproductive health problems greatly facilitates a higher response rate.
- Local terminology and expressions, which were understandable and salient to women themselves, were used to describe gynaecological conditions.
- Instead of open-ended questions, a structured checklist of individual gynaecological symptoms was canvassed. This was done to increase the likelihood of women reporting actual gynaecological morbidity. There is a widespread perception among women that such conditions are normal, and do not merit acknowledgement as complaints. Therefore specificity in wording questions helped to elicit such information.
- Studies have however found that gynaecological problems tend to be underreported in surveys that employ non-medical interviewers, given their lesser propensity to probe cues and inability to resolve medical problems. Given that our survey utilised female social workers, the likelihood of underreporting of symptoms cannot be ruled out.

7.1 Self reported morbidity

Five hundred and seven currently married women were asked questions related to gynaecological problems. About 40% reported having had at least one problem during the previous year. The most frequent problems included pain in the lower part of the abdomen, burning urination and abnormal vaginal discharge, all suggestive of urinary or pelvic infection. Four per cent women reported ulcers or boils on the genitalia -- symptoms that are specific to sexually transmitted diseases.

¹⁷ Undertaking Community Based Research on the Prevalence of Gynecological Morbidity: Lessons from India. Koenig M., Jeejeebhoy S., Singh S., Sridhar S.; Paper presented at the IUSSP Seminar on Innovative Approaches to the Assessment of Reproductive Health, Manila, the Philippines: September 1996.

Table 7.1: Gynaecological symptoms among currently married women (n=507)		
	Number	Per Cent
At least one problem in last one year	203	39.9
Number of problems		
1-2	128	25
3-4	76	14.9
Types of problems (450 problems reported by 203 women)		
Heavy periods	45	8.9
Bleeding between two periods	27	5.3
Pain in lower abdomen	124	24.5
Abnormal vaginal discharge	112	22.1
Burning urination	117	23.1
Ulcer or boil on genitalia	20	3.9
Prolapse of uterus	5	1.0

Of women with at least one such symptom, 43 per cent reported that their daily routine had been affected. This correlated with the number of symptoms as seen in table 7.2. We also found that the daily routine of women with complaints related to menstrual disorders¹⁸ was more likely to be affected as compared to women with likely genitourinary infection¹⁹ or prolapse.

Table 7.2: Effect of gynaecological symptoms on daily routine (n=203)		
Symptom	Daily routine affected %	Significance
Number of symptoms		
1 (n=69)	34.8	p=0.001
2-3 (n=104)	39.4	
4-5 (n=30)	73.3	
Menstrual disorders (n=64)	54.7	p=0.02
No menstrual disorders (n=139)	37.4	
Genitourinary infection (n=187)	43.3	p=0.65
No genitourinary infection (n=16)	37.5	
Prolapse (n=5)	60.0	p=0.36
No prolapse (n=198)	42.4	
Total (n=203)	42.9	

Gynaecological symptoms were found to be commoner among women belonging to scheduled castes and scheduled tribes as compared to women from other castes. A history of domestic violence was found to correlate with the occurrence of gynaecological symptoms. Other studies²⁰ have also found that violence increases risk for other gynaecological problems, such as chronic pelvic pain, irregular vaginal bleeding and vaginal discharge. There could be three explanations, all of which need to be explored further:

¹⁸ Includes symptoms of heavy periods and inter-menstrual bleeding

¹⁹ Includes symptoms of lower abdominal pain, abnormal vaginal discharge, urinary burning, and ulcers/boils on genitalia

²⁰ Population reports, Ending violence against women, Series L, Number 11, Population Information Program, The Johns Hopkins School of Public Health, USA, August 2000, p 17-18

- i. Violent husbands are more likely to expose their wives to the risk of sexually transmitted diseases and mistimed or unwanted pregnancies with resultant gynaecological morbidity.
- ii. Domestic violence is an indicator of lower women’s status and autonomy. Such women are less capable of accessing health services.
- iii. Women with gynaecological problems are more likely to try and avoid sexual intercourse due to dyspareunia or menstrual irregularities. Their husbands might resent this and resort to violence.

Table 7.3: Correlates of gynaecological symptoms (n=507 currently married women)		
	Proportion having gynaecological symptoms (%)	Significance
Caste:		
Scheduled castes & tribes	119/268 (44.4)	p=0.03
Other castes	84/239 (35.1)	
Domestic violence		
No	156/418 (37.3)	p=0.007
Yes	46/87 (52.9)	
Ever use of family planning		
No	66/143 (37.6)	p=0.07
Yes	137/364 (46.2)	

7.2 Perceptions of gynaecological problems

A qualitative study in 1998 looked at women’s perceptions regarding gynaecological problems. In addition, clients visiting the clinic also provided some insights in this area.

Menstrual disorders

We inquired as to what women consider as normal and abnormal menstruation. Women believe that up to 4-5 days of bleeding is normal. In a strong and healthy woman, even 5-6 days of bleeding might be normal, but more than 7-8 days of bleeding is considered to be certainly abnormal. Causes of excessive bleeding are not very clear to women. Some feel that intercourse during pregnancy might lead to continuous bleeding because the foetus is in the form of a blood clot. In case of continuous bleeding, the woman is usually taken to a “bhopa” (faith healer), who may either treat or refer her to a doctor.

During a focus group discussion, a woman recounted the time she had continuous bleeding for 8 days and went to a “Bavji”(religious place). She was told that she had not kept her promise to “Bavji”, hence the illness. Once she kept the promise, she improved. This suggests a psychosomatic dimension to problems like menstrual bleeding. Another participant recalled that her sister-in-law had continuous bleeding for 3 years. Her husband believed that she had been possessed by a witch, and therefore did not take her to anyone for treatment. She later died. Other women in the FGD opined that a wise husband takes his wife to a doctor, whereas an irresponsible husband instead takes her to faith healers.

On the other hand, lower duration (1-2 days) or less quantity of menstrual bleeding is believed to occur among weak women. It is considered a sign of “less blood in the body”. Women consider it worrisome to suffer bleeding following intercourse. Several women have body-ache, backache, and pain in the abdomen during menstruation, but generally no care is



sought for these complaints. This would suggest that dysmenorrhea is considered to be a problem to be endured without seeking care.

Most women feel that menopause results in diminished vision, excess weight gain, headache, lack of appetite, abdominal pain etc. Many of these problems are quite evidently associated with the process of ageing. Some women felt that menopause at the correct age does not adversely affect the woman, while menopause in a young woman results in diminished vision, accumulation of blood in the eyes and obesity.

“Garmi ki bimari”

Focus group discussions revealed that women have a well-defined concept of illness that can spread through sexual contact – they call it “*garmi ki bimari*” (literally translated as “disease of heat”). The illness is believed to afflict men as well as women, and occurs when a man has sexual relations with woman who is suffering from the illness. The disease is also believed to occur if a man or woman urinates at a place where someone with “*garmi ki bimari*” has urinated earlier. A few women felt that it is more likely to occur if one consumes too much tea. Women ascribed the following symptoms to *garmi ki bimari*:

- Blisters or boils which rupture, resulting in ulcers on the vulva or penis
- Itching and pain on the genital organs
- Frequent urination
- Burning at the time of urination
- Yellow coloured urine
- Among men, the penis might become rotten.

It is believed that when this illness “comes out” of a man’s body (i.e. “expresses itself”), his symptoms diminish. Hence if it cannot come out, he suffers even more. If a wife comes to know that her husband has *garmi ki bimari*, she might try to avoid having sex with him, but he might insist and thereby give her the disease. Women believe that faith healers or herbs cannot treat the disease. They feel that modern doctors can treat it. If not treated in time, an afflicted person might even die.

This account of symptoms fits reasonably well with the symptom complex of sexually transmitted diseases although it does include symptoms of urinary tract infection.

Kamli (14 years) had started living with her husband the previous month. She was in extreme pain and distress when her parents brought her to the clinic. Her mother revealed that the pain was due to a problem around her genitalia, which on examination turned out to be genital herpes (a sexually transmitted disease). Despite gentle handling and explanation, Kamli panicked on seeing the speculum and got off the couch thinking it was an instrument meant to cut her genitals. A pelvic examination was therefore not possible. Kamli received medication for her condition, after which clinic staff discussed the nature of the problem and its prevention. Her mother reacted with unhappiness and anger, and decided not to send Kamli to her husband for at least another 1-2 years. By the time she visited the clinic again after two months, Kamli had improved. This time she had come alone and looked more confident. She had not visited husband’s house in the intervening period. She had a mild recurrence of herpes, unrelated to sexual contact. Over the next 2 years, she visited the clinic again on 3-4 occasions, and developed a good rapport with clinic staff. On one of her visits she revealed that she visited her husband occasionally. She was aware that he had relations with several girls in the village. Whenever she visited him, she tried to ensure that he did not “roam around with others”.

Women opined that extra-marital relations are fairly common, but had varied opinions about how common. If wife comes to know that her husband has been unfaithful, she might confront him and go away to her parent's house. She might warn him to stop. If he does not do so, then she might try to catch them red handed -- she looks for an opportunity to follow her husband quietly to the other woman's house, locks both of them in, and then calls members of the community or the "jati panchayat" (caste council). Caste members warn the erring man and woman and levy a fine on both, which they apparently pocket for themselves. Rarely, if both husband and wife have such relations, they don't fight and truce prevails.

Vaginal discharge

Vaginal discharge occurs among many women. Several women describe it by saying that when menstruation stops, the discharge starts, and when the discharge stops, (menstrual) bleeding starts. On inquiring whether all vaginal discharge is abnormal, women were not clear. Vaginal discharge is however believed to affect a woman in several ways: she becomes weak, might get fever and body ache, especially a painful backache like after delivery. Her body becomes faded and dull. Most women were however not clear about the causes of vaginal discharge. Some attributed it to weakness and lack of blood in the body, while others felt that it might occur from drinking sour buttermilk or "raab" (a local buttermilk and corn-floor preparation), or because of sexual activity leading to disease of the "nus". Some women felt that it occurs only among married women, but added that it might occur in an unmarried woman if she is sexually active.

Women do not consider vaginal discharge to be a very serious problem, since it does not affect their day-to-day activities, except for making them weak. More often than not, it is not accompanied by backache or abdominal pain. Unlike during menses, women do not suffer any social restrictions due to vaginal discharge. Since the discharge is not seen from the outside, women do not use any cloth for it. They also do not perceive any ill effects of vaginal discharge on the husband.

HIV/AIDS

None of the women participating in focus group discussions had heard of HIV/AIDS. During surveys carried out in 2000, 15.7% and 2.4% currently married women said they had ever heard of STDS and AIDS respectively. Even among men, the knowledge of HIV/AIDS was very low -- 15.4% men in survey had heard of AIDS, and 11% knew how it spreads. A few cases of HIV/AIDS did present at our clinic. We attempted to provide counselling and care for HIV positive persons, but this did not always translate into behaviour change as highlighted below:

Babulal (30 years) visited our clinic for multiple problems including tuberculosis. On inquiry about past treatment, we learnt that he had received treatment from many doctors in the city. He showed us his past X-rays and reports, one of which revealed that he was HIV positive. He had worked in a city for some years, and after becoming ill, quit his job and returned to the village. He had symptoms of AIDS. Later we learnt that many people in the village knew that he was suffering from AIDS. He died within 2 months of visiting the clinic. After a few months, his wife was persuaded to undergo HIV testing by clinic staff, but she refused saying that she was absolutely fit and did not need any test. About a year later, she went in "nata" (customary remarriage) with another man.

Roopa was a twenty six year old widow. Once during casual conversation with clinic staff, she mentioned that her husband used to work in a large city and had been sick for some months before his death. She suspected that someone had murdered her husband while he was undergoing faith healing at a distant religious place. She visited the clinic after 6 months, for a missed period. She was apprehensive about being pregnant. She was counselled about undergoing tests for pregnancy as well as HIV. Although the pregnancy test was negative, the HIV test turned out to be positive. Clinic staff counselled her about safe sex. She revealed that she was planning to remarry (nata).

7.3 Treatment-seeking behaviour

Nearly 44 percent of women with gynaecological symptoms sought care for their problems (figure 7.1). Faith healing constitutes an important component of health care in this area since many such illnesses are attributed to a “witch” or evil influences. Thus women choose between medical care and faith healing for each health problem. As seen in figure 7.1, about 24% resorted to faith healing, while 27% made use of medical services. The latter included 8% who utilised both types of care. Those seeking medical care approached a city hospital most frequently, followed by local ayurvedic dispensary and ARTH’s biweekly clinic in equal proportions (table 7.4). However, the ayurvedic dispensaries in the area by and large treat using allopathic medicines. Local PHC and sub centre are used by fewer numbers of women.

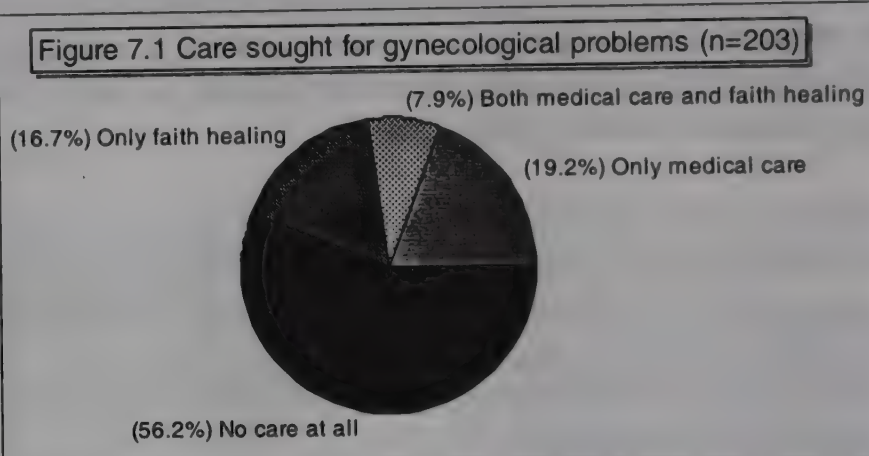


Table 7.4: Medical treatment for gynaecological symptoms		
	Number	%
Women seeking medical treatment	55	27.1
<u>Place of treatment</u> (60 places approached by 55 women)		
• City hospital	19	9.4
• PHC/CHC	6	2.9
• ARTH's biweekly gynaecological service	12	5.9
• Ayurvedic dispensary	12	5.9
• Sub-centre	4	2.0
• Unqualified practitioner's clinic	4	2.0
• Woman's home	3	1.5
<u>Persons approached</u> (61 persons approached by 55 women)		
• Government doctor	20	9.9
• ARTH clinic doctor	13	6.4
• Vaid (ayurvedic doctor)	13	6.4
• Private doctor	4	2.0
• ANM/ nurse	4	2.0
• Compounder	6	2.9
• Chemist	1	0.5

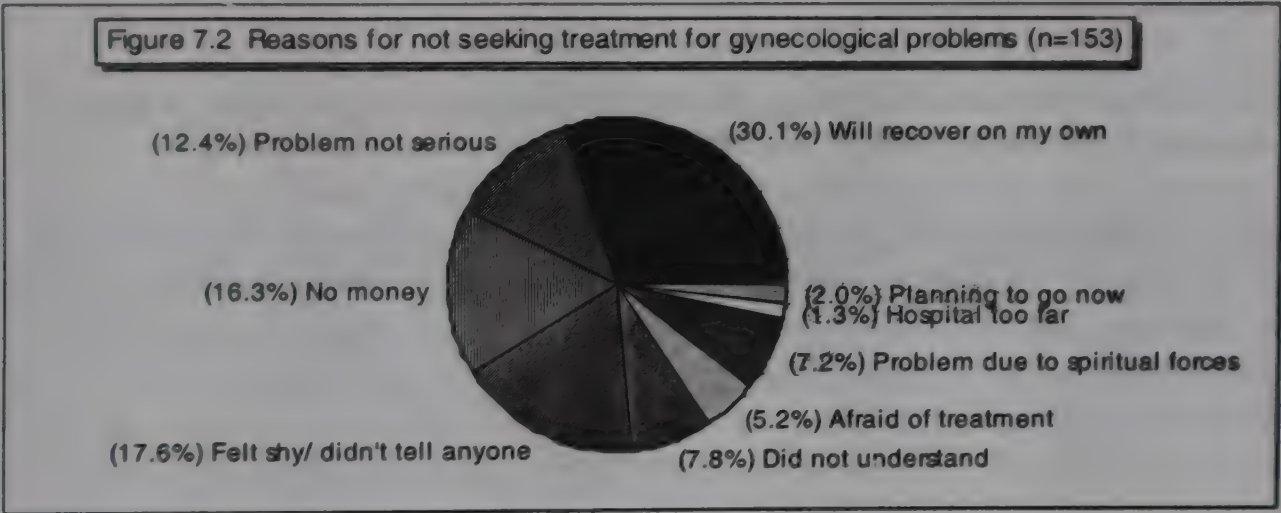
Cost of treatment

Those who sought either medical care or faith healing were asked about the cost of treatment. The median cost of treatment among women who could remember the cost, was Rupees 500 (table 7.5). This amount is quite high for a village woman who has little access or control over the required resources.

Table 7.5: Cost of treatment for gynaecological problems (n=75 women aware of cost)		
	Median cost	Range
Only medical care (n=30)	200	(0-10,200)
Only faith healing (n=29)	350	(0-3,000)
Both medical care & faith healing (n=16)	1500	(60-10,000)
Total (n=75)	500	(0-10,200)

Why women may not seek treatment

Nearly 56 percent women with a problem had not sought treatment. This appeared to correlate with a perception that the problem was not serious or would improve on its own (figure 7.2). Other reasons included lack of money, shyness or a belief that the problem required faith healing. Some of these reasons are evidently interlinked -- women who lack access or cannot afford treatment might trivialize their problem as not being serious or might hope that it will subside on its own. Belief systems that attribute health problems to spiritual forces survive longer in an environment in which access to services is poor.



Correlates of treatment seeking behaviour

The likelihood seeking treatment was greater among the other (so called “upper”) castes, among women whose daily routine was being affected, and among women who communicated with their husbands about family planning (table 7.6). Tribal and scheduled caste communities are poorer and are less likely to afford medical care. They are more likely to seek faith healing. Communication with the husband about family planning is probably a marker for inter-spousal communication about reproductive health problems. Women who could share their problem with their husbands were likely to receive their support in seeking medical care.

Table 7.6: Correlates of treatment-seeking for gynaecological symptoms (n=203)			
	Number	%	Significance
Caste			
• Scheduled tribe/ caste	23/119	19.3	p=0.003
• Other castes	32/84	38.1	
Work affected			
• Yes	31/87	35.6	p=0.017
• No	24/116	20.7	
Independent access to money			
• No	25/105	23.8	p=0.27
• Yes	30/98	30.6	
Suffered at least one episode of domestic violence			
• Yes	10/46	21.7	p=0.38
• No	44/156	28.2	
Ever use of family planning			
• No	34/137	24.8	p=0.29
• Yes	21/66	31.8	
Communication with husband about family planning			
• No	28/127	22.0%	p=0.03
• Yes	27/76	35.5%	

Many available treatment options may not be feasible for women to follow, and influence their compliance with treatment.

Lehari, married since 3 years, had delivered a stillborn baby following prolonged labour at home about a year ago. Accompanied by her mother, she had come to the clinic having noticed that a part of her body was coming out of the vagina - it was causing difficulty while passing urine and during routine work. Lehari had prolapse of the uterus. She was informed that the problem was related to early childbearing and difficult home delivery. As a temporary measure, she might try using a pessary, but an operation would eventually be necessary. Apart from being expensive, such an operation might even increase subsequent chances of spontaneous abortion or premature birth. She was advised to delay her next pregnancy, use a pessary (a rubber ring kept in vagina) and avoid lifting heavy weights. The fact that a young daughter-in-law is expected to carry out heavy domestic work and at the same time satisfy her husband, would probably make it difficult for Lehari to follow this advice.

7.4 Summing up...

Although gynaecological symptoms affect a substantial proportion of women, only about 45% of affected women seek care for them. Women tend to tolerate these symptoms unless they significantly affect their daily routine. This is partly related to perceptions of normality and a belief that gynaecological problems occur due to spiritual influences that merit faith healing. High cost and poor access to services additionally serve to perpetuate a situation of non-treatment or under-treatment, especially on part of women belonging to the scheduled castes and tribes in whom the problem appears to be more common.

The problem of HIV/AIDS in the area is related to male migration to urban areas for work. Young widows appear to be a vulnerable group. Awareness of HIV or its seriousness is very limited. There is a need for serious efforts to bring about behaviour change to prevent the spread of HIV/AIDS.

Childlessness

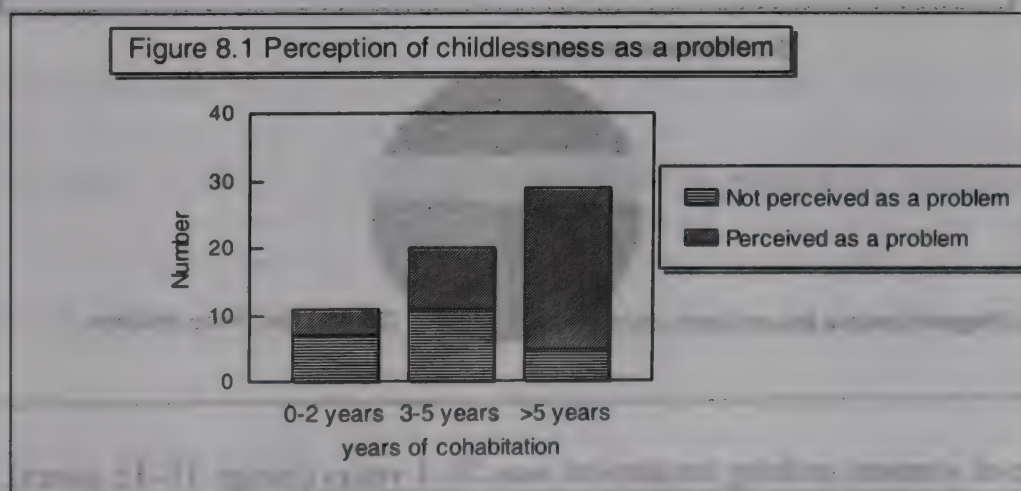
According to the WHO studies, the prevalence of primary and secondary infertility in India is 3% and 8% respectively. In Rajasthan 4.3% of currently married women are infecund as per findings of the National Family Health Survey (1998-9). Couples can be childless either because of failure to conceive, pregnancy-loss or infant deaths. In the community, a derogatory term is used to refer to such women - "banjhri" or barren woman. Infertile women resort to a variety of remedies in a situation where rational therapy is as scarce as it is expensive.

Data presented here has been derived from 2 sources:

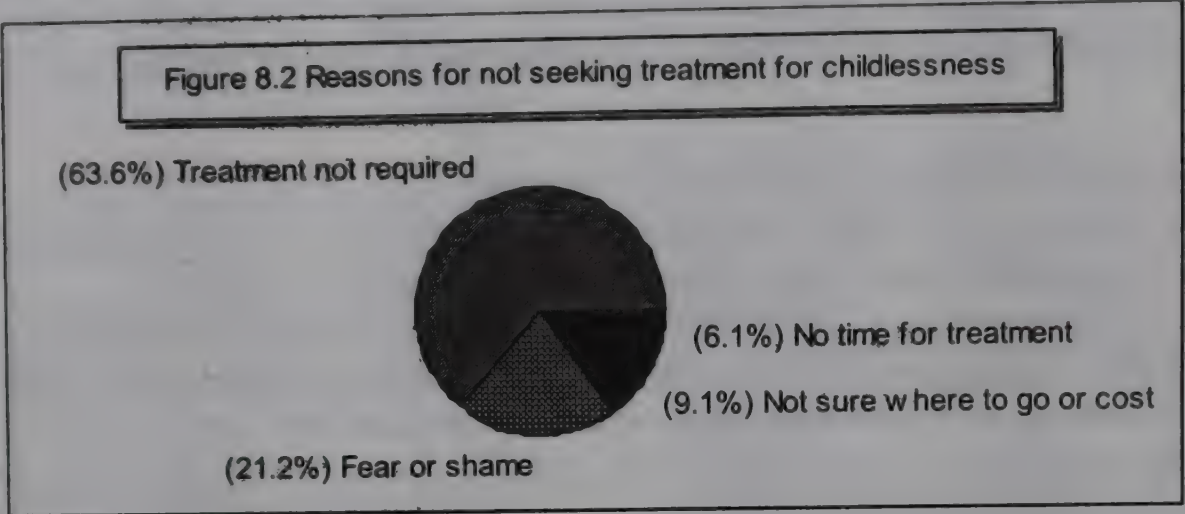
1. A survey carried out in 1998, wherein a simple random sample of 60 childless women was drawn from a population census. These women were then interviewed.
2. Clinic based surveillance" (CBS), whereby women with selected reproductive health needs are enrolled at the reproductive health clinic and followed up either at the clinic or home. This data sheds light on how infertile women who visited the clinic at least once, coped over the years in the absence of a service, and how they are now attempting to interface with a new (albeit imperfect) facility

8.1 Health seeking behaviour of childless women

Survey data showed that 67 per cent childless women had never been pregnant, while the rest had suffered multiple abortions, stillbirths or child death. Those who had never been pregnant included 11 recently married women who were anxious about not having conceived after marriage. Few of these women had a clinical problem. On the other hand, not all childless women felt that they had a problem severe enough to merit treatment. Even among those who had been living with their husband for 3 to 5 years, a substantial proportion did not feel that their childlessness was a problem (figure 8.1).



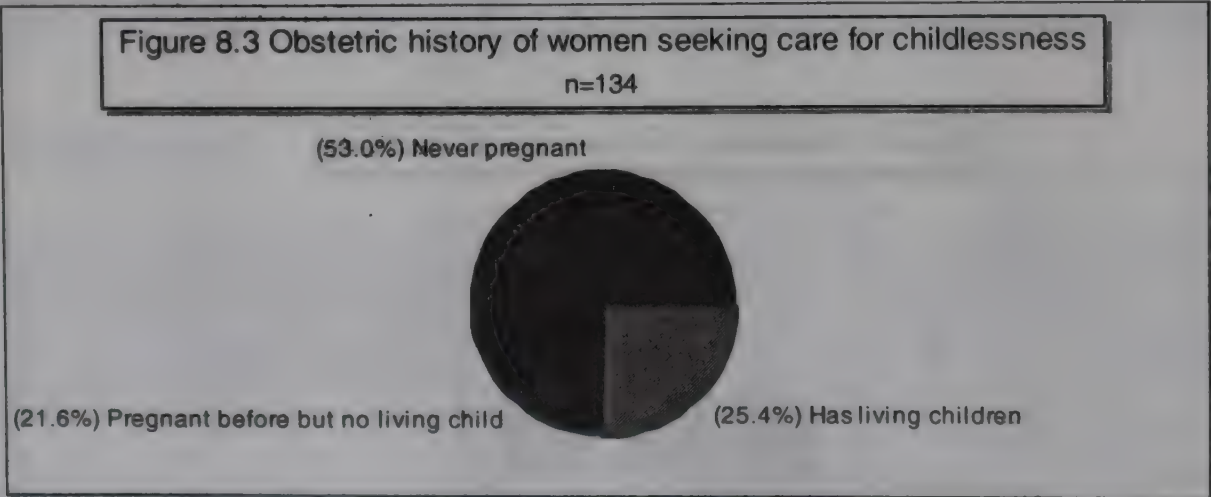
Treatment was sought by 11 of 37 surveyed women who perceived their childlessness to be a problem. We investigated why the rest had not sought treatment (figure 20) – these reasons need to be probed further. A large proportion of childless women who feel they have a problem nevertheless do not wish to seek treatment. One may conclude that while there is a significant unmet need for treatment of childlessness, a large part of the need is latent. Perhaps the availability of viable treatment options might rapidly change this picture. The 11 women who did seek treatment had resorted to multiple agencies - seven had resorted to faith healing by a *bhopa*, 5 had consulted a doctor and one each had contacted a *vaid* and village practitioner (a few women had consulted multiple providers). The 5 women who had consulted a doctor had evidently received an incomplete set of investigations.



8.2 Clinic experience in managing childlessness

Client profile

One hundred and thirty four childless women sought treatment over a period of 34 months from Nov 1997 to August 2000, when this report was drafted. These included 73 (53%) with primary infertility and 63 (47%) with secondary infertility or poor obstetric outcome due to child death, miscarriage or stillbirth (figure 8.3). The mean duration of childlessness was 8.1 years (median 7 years).



The mean age of women seeking treatment was 26.4 years (range 16-45 years). Some women who had never sought treatment during their fertile years did so when they were close to menopause, probably because that was when services had become available in the area. This has been highlighted by the example below.

Kesi (45 years) had been married many years ago but had not been treated for childlessness. For the past 6-7 months, she had not had a period. She came to our clinic for treatment to “bring about periods” and to conceive. On being informed that she had attained menopause and could not therefore conceive, she insisted that she wanted to have periods. She felt that her eyesight had become weak and that her whole body ached because her periods had stopped.

Past treatment

Women seeking care for childlessness were asked about treatment received in the past, before they visited the ARTH clinic. It being a busy clinic, only 114 women could be asked about the past treatment. The majority of these women had visited faith healers, while nearly one third had not sought any help (table 8.1).

Table 8.1: Past treatment for childlessness before visiting ARTH clinic (n=114)	
Past treatment sought	Percentage
No care sought at all	30.7
Faith healing	50.6
Medical treatment sought	18.7
Both, faith healing & medical treatment	22.4

Infertility is commonly believed to result from the influence of a witch (“daakan”), and is not considered a medical problem; therefore infertile women are taken to faith healers for “jhara” or “khol bharana”. Traditional approaches to dealing with childlessness coexist with treatment seeking from modern health care providers, although the process might involve a conflict at some point in time. This is illustrated by two examples from our own clinic.

Meena (26 years) had married 8 years ago, but had not conceived. She started visiting our clinic for treatment of infertility. We learnt that she had also been going to a “devra” (village temple) every month in order to get rid of the problem. After 2 months, she stopped coming. When contacted at home, Meena said that her relatives and neighbours had opined that she could not be cured through medical care. Her problem was due to the influence of a “daakan” (witch), for which she should sacrifice a goat and follow the advice of the “bhopa” (local faith healer). They felt that if she were to also follow modern treatment, the problem might worsen. Hence she had stopped visiting the clinic. When after a gap of 10 months she learnt that some other women attending the clinic had conceived, Meena again started following up with us.

Surti (30 years) had been married since 12 years but did not have children. She had never visited a doctor. With her husband, she went to a well-known faith healer in Gujarat. The couple stayed there for 2 months and followed prescribed rituals in order to be liberated from evil spirits. Shortly after, Surti conceived. By way of caution she wore iron chains secured by small padlocks around her neck, waist and upper arms during pregnancy. These were meant to protect her from any further onslaught by evil spirits. She also regularly visited the clinic for antenatal care.

Compliance with treatment

Infertility management entails serial investigations and treatment as part of a lengthy process. However, success rates are not very high. We counselled women and couples at the clinic about what to expect, but many couples stopped following up after 1 or 2 visits (table 8.2).

Defaulters were contacted at home - some clients disclosed that they had expectations of a cure (conception) within one or two visits and were therefore disappointed. Some had stopped because the husband was advised to undergo semen analysis, and he was not willing to comply. Others had been advised by relatives and neighbours that the problem was due to possession by a witch; hence cure could not be expected from modern treatment. A quarter of the clients however represented a highly motivated group that followed up regularly.

Table 8.2: Number of clinic visits by childless women

Number of visits	%
1	42
2	22
3	12
4 or more	25
Total	100

Husbands' role

Except in cases of multiple pregnancy losses, all husbands were called for semen analysis and a clinical examination. Many of them did not come to the clinic even once, while some of those who did come refused semen analysis. As a result, semen analysis could be carried out only on fifty-four husbands.

Shanti (32 years) was following up regularly at the clinic. A post-coital test had revealed absent spermatozoa. She had also mentioned that her husband (a jeep driver), had complaints suggestive of sexually transmitted disease some years ago. After much persuasion she managed to bring her husband to the clinic one day. He agreed to undergo physical examination by a male doctor - this was done with complete attention to privacy and confidentiality. He however resented that his own fertility had been doubted, refused a semen analysis and stopped co-operating further. We again explained to Shanti the need for both partners to be investigated. Several visits later she appeared quite frustrated with her husband's adamant attitude. She mentioned that if he did not agree, she might consider opting for customary remarriage (nata).

While infertility has been medically defined as "inability to conceive despite at least one year of unprotected intercourse", we encountered many childless women whose husbands lived in town and occasionally visited their wives living in the village. In case of eighteen percent of all women seeking care for childlessness, husbands did not regularly stay with them. Families nevertheless expect wives of such "absentee husbands" to conceive within a few years, compelling them to seek care.

Tamli (28 years) had been married for 12 years and was childless. Her husband stayed in Mumbai and would visit the village once in 4-5 months. Tamli says that she cannot go and stay with husband because of the need to look after the farm and cattle, nor can her husband quit his job to stay in the village. She wants treatment for childlessness.

Focus group discussions in two villages after the survey confirmed that the woman is universally blamed if she remains childless more than 4-5 years after marriage. People consider it inauspicious to see the face of an infertile woman ("banyhri"), especially in the morning. When asked about the possible consequences of remaining childless, 10 of 37 surveyed women who perceived their childlessness to be a problem said that their husband was likely to bring another wife. The strongly rooted desire for biological progeny might also limit the possibility of adoption - in response to a specific question, only 14 women agreed that they could consider adoption. However, this is an issue that needs to be explored further.

Polygamy related to childlessness can make the reproductive health situation of the family even more complex, as illustrated by the following example.

Hariram (35 years) came with his two wives to the clinic. His first wife (age 33), had not borne a child for 12 years, hence he had married again. The second wife (age 22) was pregnant. Hariram brought his first wife for treatment of genital ulcer and his second wife for antenatal check up. Both wives and the husband tested positive for syphilis. The first wife had never been investigated for infertility and appeared to have resigned herself to her husband's remarriage. She was not keen to be treated for infertility. Two years later (i.e. 14 years after marriage), the first wife also conceived and started visiting our clinic for antenatal check-up.

“Nata” and childlessness

Abandonment by husbands may force some women to opt for customary remarriage (nata), a custom that we found to be much commoner among childless women (table 8.3).

Table 8.3: Correlation between childlessness and customary remarriage (“nata”) (n=507 currently married women)		
Number of living children	% women with “nata”	Significance
Nil	20.3	p=0.036
One or more	12.6	

At the same time, “nata” by itself might change a woman’s desire to have (more) children. While the wife may have borne the desired number of children from her first marriage, this might change following customary remarriage. Often this is because the woman has remarried an infertile man who wants to have his own biological progeny, that being his reason for nata. These cases illustrate how inferior social status and poor access to information and services adversely affect childless women in a complex manner.

Sovni (26 years) came for treatment of infertility. She revealed that she had married a second time. She had 2 children from her first marriage, but after that marital alliance broke her first husband had managed to retain custody over both children. Sovni was very upset on being separated from her children. Two years into her second marriage she had not conceived and sought treatment for her problem.

Leharki (38 years) had 3 children from her first marriage. After her husband’s death, she entered into a “nata” remarriage with another man. For her second husband too, this was a second marriage. He however did not have children from the first wife. Even though he now had three stepchildren from Leharki, he wanted her to bear his own children. On investigation, the husband was found to be azoospermic. A testicular biopsy revealed (incurable) maturation defect. The couple was counselled about artificial donor insemination (AID), which proved to be an infeasible and expensive option. The husband could have contented himself with his wife’s children, but was unwilling to accept the situation.

While working in the clinic, our perspectives and prior work experience initially led us to assume that “one stable marriage” is the norm. We were not aware of the high prevalence of nata, and of the importance of taking a detailed history from both husband and wife about pregnancies resulting from all past and present (marital) partnerships. As our understanding of nata and its health dimensions grew, we began proactively inquiring about pregnancies by the past wives of current and past husbands – this helped us in arriving at a more accurate diagnosis. For example, in case of 15 women for whom it was a second marriage, we learnt that 7 past husbands ultimately had children by their second wives. Similarly we learnt that-

12 out of 24 current husbands of childless women had fathered²¹ children by their other or previous wives.

Nati (30 years) came for treatment of infertility. She had been living with her second husband for 5 years, but had not conceived. She had never cohabited with her first husband, and therefore did not have any children from her first marriage. On inquiry we learnt that her current husband had married her because his first wife had not borne children after 8 years of marriage. The first wife of Nati's second husband had also remarried and had subsequently borne a child. Nati's husband did not turn up for semen examination, even though it appeared quite likely, that the infertility was due to a problem in the male partner.

8.3 Summing up...

Rational treatment for childlessness has for long been absent in a rural area like Kumbhalgarh tehsil, and women have to endure their problem for many years before seeking medical care. Women face risk of being abandoned by their families because of childlessness, sometimes without having undergone any investigations. Childless husbands tend to deny the possibility of infertility being attributed to them and participate little in helping their wives cope with the problem. High cost and low success rates mean that investigations and treatment received from modern practitioners tends to be incomplete. It also might lead to exploitation of desperate couples. On part of rural or tribal patients, there is limited capacity for regular follow up, resulting in a high drop out rate.

For many childless men, the practice of customary marriage (nata) comes in handy, in their attempt to have biological progeny. Apart from it being inherently unfair to both the incoming and the displaced wife, nata for childlessness complicates the family reproductive health situation and also makes the process of clinical diagnosis more complex. It is also worth noting the fact that instead of trying out adoption as a social solution to the medical problem of infertility, men of our field area seem to prefer another, less effective social solution in the form of nata, with its attendant marginalisation of women as child-producers.

While interventions for preventing infertility (largely comprising prevention of STDs/RTIs) are obviously a priority, there also is need to deliver a practical counselling and service package for childlessness through the primary health care system. This could take the form of a well-publicised periodic service at block level, with robust referral linkages to higher investigations at the district headquarters or in cities. At the same time, any public health intervention for infertility must find ways to address or at least account for the social and gender dimensions of the problem.

²¹ from the patient's story, we assumed that they had fathered the children, though there always was the possibility of insemination by another man

Social Influences on Health-Seeking Behaviour

9.1 Educational attainment

Like in the rest of Rajasthan, female literacy is very low in Kumbhalgarh. Data from the 1991 census reveals that male and female literacy in the block were 38.4% and 8.3 %, while the literacy rate among tribal females was as low as 0.2%. We carried out a census of 10 villages in 1997. Our findings on literacy status have been presented in table 9.1. An improvement in literacy status as compared to 1991 census findings is evident.

Table 9.1: Literacy rate by age and sex in project area		
Age group	Male (%)	Female (%)
6-12 years	78.9	48.6
13-19 years	82.6	25
20+ years	47.2	5.3
All age groups	58.3	17.4

Our end line survey of currently married women in 2000 revealed that 11.8 per cent had ever attended school, and median level of education was class 1. From table 9.2 it is apparent that most women could not go because it was not the norm at the time -- nobody sent them to school. Gender differences in work and roles within the family and community are evident soon after the pre-school age. Young girls begin to share the family's work burden early in life, until they are sent to their husband's home after the *gauna* (or cohabitation) ceremony. Thereafter they work in their marital home. An investment in girls' education is seen as yielding little return to their parents. Low educational attainment is one indicator of the low social and economic status of women, with all its implications for autonomy and health.

Table 9.2: Reasons reported by women for not having attended school (n=737 married women)		
Reported reasons	Number	%
It was not a custom	329	44.6
Nobody sent me to school	162	22.0
I had to do household work and look after my brothers and sisters	106	14.4
Mother/father died when I was a child	21	2.8
In earlier times, daughters were not educated	47	6.4
School was far/ no school in the vicinity	71	9.6
We did not understand the need to go to school	14	1.9
I was not interested	16	2.2
Other	6	0.8
(Percentages don't add up to 100 since multiple responses were allowed)		

We found that illiteracy affects women’s health-seeking behaviour in several direct ways – these include women’s limited exposure to media messages, inability to comprehend the printed word on communication materials or medicine packets, difficulty in giving informed consent, difficulty in travelling to towns or cities for referral care and greater likelihood of being overcharged at health facilities. Unwillingness on part of illiterate women in using modern health facilities is probably related to these reasons too.

9.2 Nata (customary remarriage)

Nata is a second or subsequent union between a man and a woman, according to customary law. It therefore amounts to a customary remarriage and the couple lives together as husband and wife for all practical purposes. Nata is generally a “remarriage” for both husband and wife. The practice is fairly common in Kumbhalgarh as in many other parts of eastern and southern Rajasthan. Our survey revealed that 118 or 14.1% women had remarried in this manner. Out of these 118 women, 8 had a predecessor or “co-wife” living in the same house. Tribal or scheduled caste women were more likely to adopt this practice (19.1%) as compared to women of other castes (7.7%). The reasons for break in the earlier marriage, as reported by women, have been shown in table 9.3.

Table 9.3: Reasons for break in the earlier marriage leading to nata among women (n=118 women)		
Reasons reported by women	Number	%
Husband died	28	23.7
He brought another wife	25	21.2
He used to beat me / he was a drunkard	17	14.4
I was too young so he abandoned me	11	9.3
In retaliation for similar action by my brother who had married my husband’s sister (the custom of "ata sata" ²²)	10	8.5
I did not like him / we did not get along	5	4.2
I did not have children	4	3.4
I used to remain sick	4	3.4
He was too young	2	1.7
Other	15	12.7
Total (multiple reasons given by 118 women)	121	100 %

The survey of husbands in 2000 revealed that 37 (16.3%) men had married again. Five of these had their previous wife staying with them; hence we asked the remaining 32 men why their previous marriage had ended (table 9.4). Almost half said that the marriage ended because the wife opted for nata or stopped staying with them.

Table 9.4: Reasons for break in the earlier marriage, leading to nata among men (n=32 men)	
Reasons reported by men	Number
She died	13
She opted for “nata”	15
She does not come here	1
She remained sick	1
I left her	1
She was too young	1

Nata or customary remarriage has been regarded as an unjust custom of buying and selling

²² As per the custom of “ata-sata”, a brother-sister pair marries another brother-sister pair. The breakdown of one marriage often precipitates a similar retaliatory action for the other

women (the new husband pays an amount to the previous husband or woman’s father or brother). However, from the reasons mentioned, it is obvious that for a significant proportion of women, nata was related to the husband’s death. Nata probably saved women from living a hard and lonely life as widows. For several women, it must have provided relief from domestic violence or alcoholism. Thus nata allows at least some women of the area to walk out of a marriage full of suffering. Nata however influences women’s health-seeking behaviour in certain ways. A few examples of how nata affects fertility intentions have been given below. Its relationship with infertility has been discussed in the preceding section on childlessness.

Gita (18 years) did not have any children. She came to the clinic asking for a contraceptive method. Since it is quite rare for women, especially adolescents, to take the initiative in coming to the clinic for contraceptives to delay the first pregnancy, the clinic staff was somewhat perplexed. Gita revealed that she planned to opt for a nata alliance within a few months. She was living with the first husband and wanted a discrete contraceptive so that she could avoid becoming pregnant before moving on to the new husband.

Chawli (27 years) had 3 children, and wanted no more. She came to our clinic with a volunteer and after counselling, accepted a Copper-T 380A (the “10-year Copper-T”). After one and half years, she got it removed because she wanted to remarry through a nata alliance. Her reason for removal of the Copper-T therefore was personal rather than medical.

Roopa (20 years) came to the clinic with a missed period, apprehensive that she might be pregnant. She asked for treatment to bring on her period. On probing she revealed that she had been sent by her husband to her parents’ home 20 days ago, and feared a break in her marriage. She did not want to be burdened with a pregnancy in case she had to remarry.

9.3 Women’s autonomy

Personal autonomy is known to be a key determinant of women’s ability to seek RH education and services. We broadly assessed autonomy by using a few indicators of women’s mobility and role in decision-making on household matters. Table 62 shows that approximately half of all currently married women were involved in decision making about their own health care, staying with parents, purchase of jewellery, going to the market and visiting friends and relatives. However, very few could take these decisions without someone’s permission. It appeared that lack of autonomy particularly hinders the decision to seek health care.

Table 9.5: Women’s decision making ability (n=507)				
Action	Number and % involved in decision making		Number and % who do not need permission	
	No.	%	No.	%
Cooking	457	89.3	300	58.6
Own health care	243	47.4	18	3.5
Staying with parents	279	54.5	21	4.1
Purchase of jewellery	274	53.5	8	1.6
Going to the market	244	47.7	29	5.7
Visiting friends/relatives	296	57.6	109	21.3

Less than half the women have access to money – most have to ask their husband, parents-in-law, parents, brother or son. This is expected to affect the ability of women to seek health

services. Only when family members agree that her problem is serious enough and her ability to carry out routine household chores is affected, is she likely to be taken for treatment. For women who wished to use services like contraception or abortion without informing their families, lack of access to money can become an important constraint. We additionally learnt from women visiting the clinic, that a woman's marital family expects her parents and brothers to shoulder the major cost of health care. This custom proves to be a constraint for "secret" reproductive health needs and especially if parents do not live close by.

Table 9.6: Access to money among currently married women (n=507)		
<i>Access to money</i>	<i>Number</i>	<i>%</i>
Has access to money	246	48.5
Has to take money from someone [Includes husband (236), parents in law or parents (25), brother or son (2)]	261	51.5
Total	507	100

9.4 Domestic violence

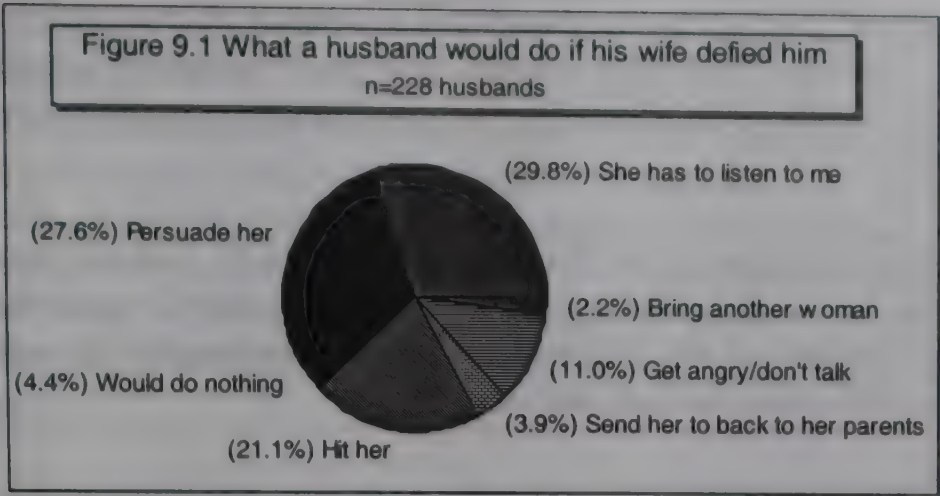
Magnitude

Recognizing the fact that coercion and violence affect reproductive decision-making, we inquired about domestic violence. Currently married women were asked as to what the husband would do if his wife were she were to defy him. About a third could not even countenance the idea of defying the husband. Although about a fourth responded that the husband does not do anything, 14 per cent of the responses had to do with physical violence.

Women were also asked a direct question as to whether they face any physical violence from the husband or his family. We learnt that 14.7 per cent reported having suffered physical violence from their husbands at least once. When asked how they felt about it, the majority of women said they felt bad (51 per cent), angry (34 per cent), felt like running away (6.5%) or felt like dying (4 per cent). On the other hand, 4 per cent said that they were used to it.

Table 9.7 Husband's reaction to defiance by wife, as reported by wives (n=522 responses reported by 507 women)		
<i>Husband's reaction if wife were to defy him</i>	<i>Number</i>	<i>%</i>
I can't defy him	168	32
He does nothing	141	27
He fights	105	20
He gets angry	31	6
He beats me	73	14
He doesn't talk to me/other	4	1

Husbands were similarly asked as to what would they do in case their wives were to defy them. Some could not imagine that such a situation could conceivably arise, and therefore said, "She *has to* listen to me". About a fifth mentioned that they would hit her, while some husbands mentioned severe measures like sending back her to parents or bringing another woman. Only about a third said that they would not do anything or persuade her to listen.



When directly asked whether or not they beat up their wives, 17% husbands admitted that they do. Their reasons included “she doesn’t work” (38.4%), “doesn’t listen to me” (38.4%), “argues with me” (15.4%), or “doesn’t cook on time” (5.8%). Most husbands stated that they beat their wives “often” or “frequently”. While 8 out of 39 husbands said they regret beating their wives, most justify it -- if she makes mistakes, she needs a beating (table 9.8). Many husbands felt that beating makes the wife work better.

Table 9.8: Husbands’ perceptions about beating their wives	
Perceptions reported by husbands	Number
If she makes mistakes, then she deserves it	22
It is necessary	7
It was my mistake, I wouldn’t do it again	8
No feelings	3

Influence of domestic violence on health seeking behaviour

Fear of domestic violence is likely to influence treatment seeking for an illness episode. Adolescent girls appear to be at higher risk of violence because of their lower status within the marital family. In such an environment, it might prove difficult to seek services for (say) contraception or antenatal care, or to comply with a health provider's advice.

Ansi, a 16-year-old girl, was brought to the clinic by her parents with the complaint of high fever and abdominal pain over 8 days. She had been living in her husband's house when the fever started, but had not received any treatment. Because of her illness, she was unable to carry on with routine household work. Her mother-in-law had complained to her husband about this. Ansi’s husband lost his temper and kicked her in her waist, after which she had developed severe pain in that region too. She continued to have high fever and became very weak, whereupon her parents were informed. They brought her home. At the ARTH clinic, she was diagnosed to have acute pyelonephritis (infection of the kidneys and urinary tract) and needed treatment over 4 weeks.

Chapli, a 16-year-old girl had started living with her husband 2 years ago. One day she came to the clinic from her parents’ home, with threatened first trimester abortion. After giving her the necessary treatment, we explained that she might nevertheless abort, this being common with early spontaneous abortion. She responded saying that her parents-in-law and husband would blame her for deliberately aborting the foetus, and would not believe her, especially if this happened in their absence. Chapli was anxious that if she did abort, his family would beat her up. Despite advice to take bed-rest, she took the medicines and decided at once to undertake the arduous journey back to her marital home.

Extramarital affairs on part of the husband put a woman at dual risk of STDs as well as domestic violence. Women have little control over their husbands' sexual lives. As seen in another case below, the use of condoms for extramarital affairs might be perceived as making it easier for the man.

Manki, a 45-year-old woman, came to our clinic with a swelling on her forehead. She said that her husband had hit her with a stone because he wanted to get rid of her, and then bring in another woman. She was angry with ARTH's village volunteer and male field worker, saying that they provided the condoms that her husband now conveniently uses, while having sex with other women.

Pushpa, a 22-year-old woman, had been coming regularly for antenatal checks, always accompanied by her husband. She was his second wife -- he had married again apparently because the first wife was not mentally sound. On each visit, Pushpa kept mentioning vague complaints like body ache and abdominal pain, for which no specific medical cause could be found. One day she visited the clinic alone, and revealed that her husband used to regularly beat her up -- about 3-4 times a week -- and that this was the reason for her aches and pains. Her husband had sexual relations with several other girls and women, and her protests on this issue would invite a beating.

Violence sometimes results when women start exercising their reproductive rights. Some men appear to view making a woman pregnant as an important way of controlling her. On the other hand women wish to independently control their own fertility. A review of 159 oral pill acceptors in our field area revealed that 11 per cent women were using them secretly. Men may resent and try to punish such "unilateral" decision-making by women.

Lali, a 35-year-old woman, came to the clinic accompanied by a community volunteer. She had just missed a period. Lali had borne 7 children but only one had survived. Tired of repeated pregnancies, she asked for a contraceptive. After counselling and consent, menstrual regulation was carried out and a Copper-T 380A was inserted. A few days later on a visit to her village, her husband confronted our nurse-midwife. Lali had evidently got the procedure done without his consent. He had beaten her up and she had fled to her parents' home. Lali came to the clinic a month later, alone and upset. Having returned 4 days before to her husband's house, she faced a complete boycott by his family. Now she was desperate to have the Copper-T removed before other women spotted her at the clinic. She even offered to pay for the removal. The Copper-T was promptly removed and she hurried home without any further contraception.

9.5 Summing up...

An interplay of social factors influences women's health-seeking behaviour. While long-term investments including education are needed to improve women's social status, program managers, service providers and communicators need to be sensitive to these issues while addressing reproductive health needs of women in clinics and in outreach settings.

For example, if providers are sensitive about the limited autonomy women have in making decisions on fertility and contraception, they might be in a better position to counsel a woman who appears unwilling to use a contraceptive after abortion. Understanding women's lack of control over resources might make managers and providers more willing to minimize the direct and opportunity cost of services. If managers were to appreciate the influence of caste over health care utilization, they might direct greater resources towards health care for socially

backward classes. If providers were to understand women's daily workload, and the distances they have to travel to bathe and wash clothes, they perhaps would not carry negative attitudes about patients who look "dirty". Similarly, if providers were to better understand the traditional social norms surrounding childbirth, and the lack of exposure to media messages on part of illiterate women, they might not carry negative attitudes towards families that bring women "too late" for an obstetric emergency. If a woman feels uncertain about her current marriage and is anticipating a change of husbands, her reproductive intentions might appear illogical to a provider who believes firmly in the "two-child norm". Providers therefore need to be sensitive about the possibility of "nata" even among women who appear to be in a stable marital alliance.

Reproductive health services also need to be sensitive to power dynamics within the household and maintain absolute confidentiality about their clients. While they may not be able to prevent domestic violence, they can help to offset some of its health consequences by helping women to cope with their situation, at least in the clinic setting.

Section II

Meeting Women's Reproductive Health Needs

Reproductive and Child Health Clinic

As an organisation, ARTH's mission is to help communities to access health care according to their needs and capacities, by using research and training initiatives. A key strategy for achieving this goal has been the establishment of a field health care programme for a defined population. The area chosen was the southern part of Kumbhalgarh block in Rajsamand district. A package of reproductive health services was introduced in 10 villages that had a high tribal population (52%). This was implemented through a clinic along with outreach activities in the 10 villages. A key element of our approach was the close integration of planning, implementation and monitoring of clinic and outreach activities.

The RCH clinic started functioning in a central, road-linked village situated 52 km away from Udaipur City. It provided outpatient services through a gynaecologist (and also later, a paediatrician) assisted by two nurses, every Tuesday and Thursday without fail. To build trust in the community that services would definitely be available, a lot of planning and effort was invested in keeping it open even on holidays. Access to services was therefore predictable.

The clinic was intended to serve 2 purposes: (i) to provide access to integrated reproductive health services to women and adolescents of the area (ii) to learn about women's needs, perceptions and constraints in seeking health care. An account of the services provided and experiences in running the clinic has been given in following sections.

10.1 Clinic service package

The following services are offered at the clinic:

1. Confirmation of pregnancy
2. Maternal care: antenatal and postnatal care, 24 hour-delivery service, obstetric flying squad with first aid services, referral for complications
3. Contraception: counselling, reversible methods of family planning (oral pills, condoms, copper-T, DMPA, natural methods, referral for sterilization)
4. Abortion: management of complications of abortion, counselling for unwanted pregnancy, menstrual regulation, first trimester medical termination of pregnancy (MTP), referral services
5. RTIs, STDs and gynaecological conditions: management of gynaecological conditions including menstrual disorders, prolapse, reproductive tract infections, STDs, etc
6. Infertility: investigation and treatment of the couple, semen examination and endometrial biopsy, referral to the city for investigations like ultrasonography, hormonal tests and testicular biopsy
7. Child health services: immunisation, treatment of malnutrition and common ailments

Different providers offer these services as shown in table 10.1. The nurse-midwives provide outpatient services 6 days a week, and emergency services on all days. The gynaecologist provides services on 2 days, while paediatricians provide services once a week.

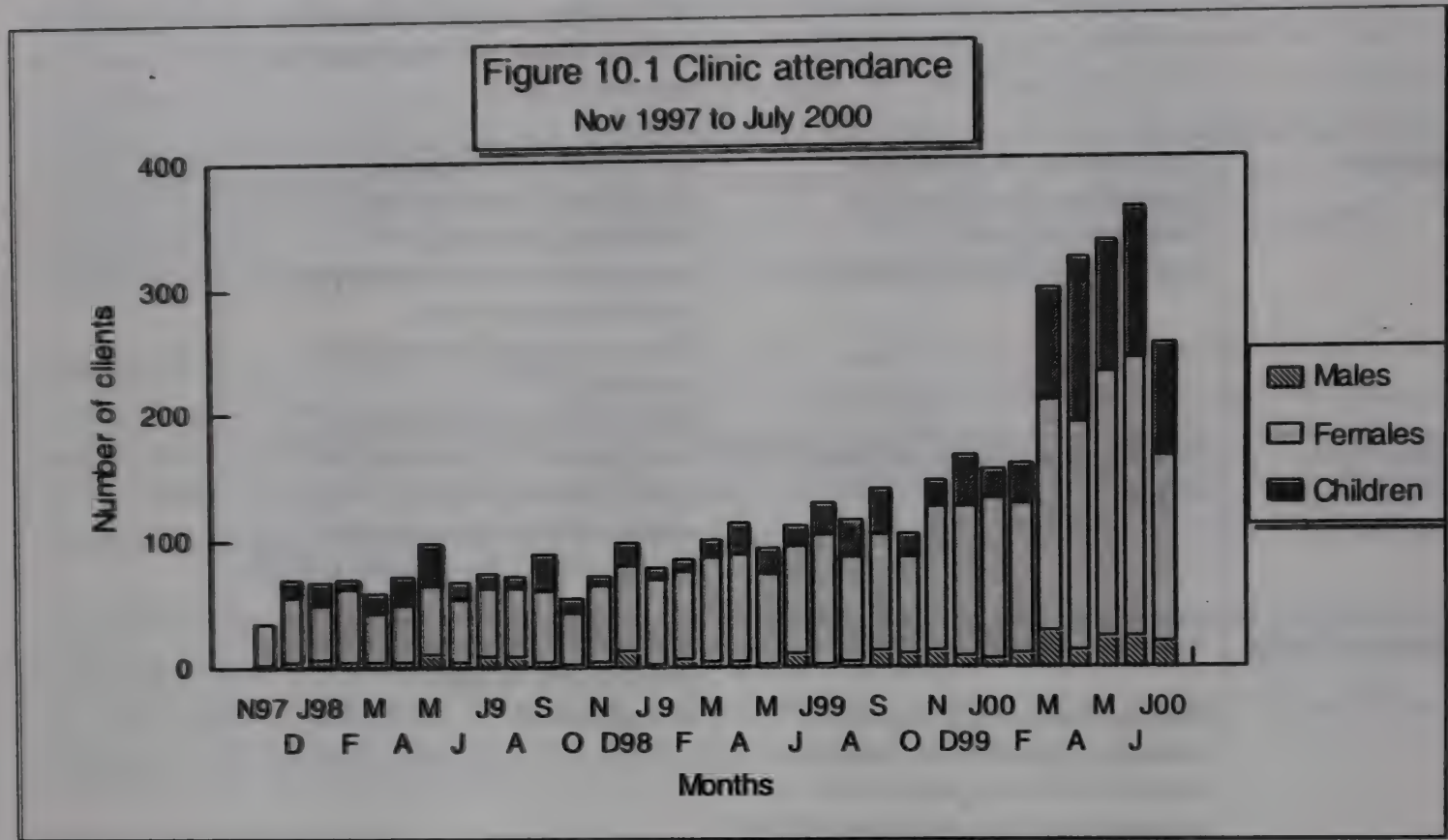
Table 10.1: Services offered by different providers at the RCH centre			
<i>RH need</i>	<i>Nurse-midwife</i>	<i>Gynaecologist</i>	<i>Paediatrician</i>
Contraception	Counselling Provision of oral pills, condoms, copper-T, copper-T removal Instructions for natural methods	Counselling Provision of oral pills, condoms, copper-T, instructions for natural methods Post abortal Copper-T insertion Difficult Copper-T insertions and removals DMPA	
Abortion	Confirmation of pregnancy Counselling of women with unwanted pregnancy Follow up of abortion clients	Confirmation of pregnancy Counselling of women with unwanted pregnancy Management of complications of spontaneous abortion Menstrual regulation and first trimester MTP Follow up of abortion clients	
RTIs, STDs, gynaecological conditions	Provisional diagnosis and referral for RTIs/STDs	Management of gynaecological conditions including infertility, menstrual disorders, prolapse, reproductive tract infections, STDs, etc	
Maternal health	Antenatal & postnatal care Normal home and institutional delivery; recognition of maternal complications, arrangement of transport and accompanying women to hospital for emergency obstetric care.	Antenatal & postnatal care for women with obstetric complications	
Child health	Childhood immunisation; treatment of childhood illnesses – diarrhoea, pneumonia, etc		Treatment of childhood ailments and all children referred by paramedics
Other	Any other health problem		

Although focus is on the above services, persons who come with other health needs are not turned away. In order to serve the above needs, the clinic provides information, counselling, physical (including pelvic) examination, basic laboratory tests and diagnostic pelvic procedures and minor surgery. A 24-hour delivery facility (both at home and at the health centre) by nurse midwives was added in November 1999²³. On being called for a domiciliary delivery or maternal complication, a nurse-midwife with male field worker reaches the woman's home on a motorcycle – this arrangement has been called an “obstetric flying squad”. Child health services were strengthened onwards from Nov 1999 through weekly visits by a paediatrician.

²³ through a project supported by Sir Ratan Tata Trust, Mumbai

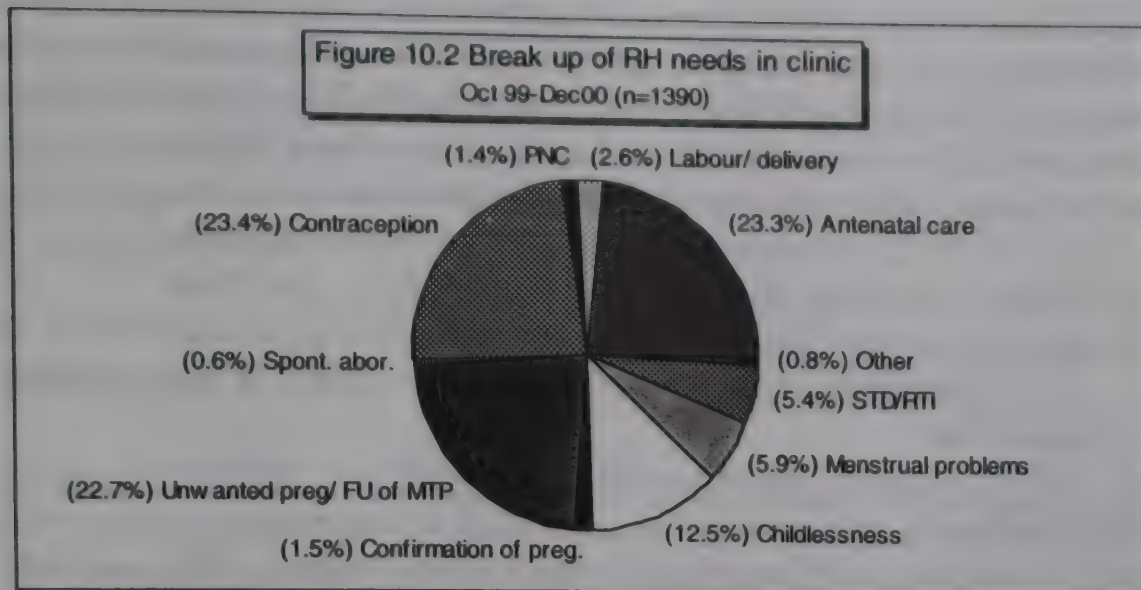
10.2 Client's needs and utilisation of services

In the first year, especially for the first few months, clinic attendance was low, despite transient increases. There was a gradual rise to 200-350 client-visits per month by the end of the third year. This was due to better awareness among people about available services, trust in the clinic, and referrals by outreach volunteers and workers. On average, 24% of all client visits were by children while about 6.5% were by men. Sixty nine per cent of client visits were by women, a little over half of which (53%) were for reproductive health needs.



The proportion of primary RH needs expressed²⁴ by clients has been shown in figure 10.2. The figure indicates client visits and not number of women. It can be seen that the most common reasons for which women attended the clinic were contraception, unwanted pregnancy and antenatal care, which included pregnancies with complications. Childlessness, menstrual problems and symptoms of RTI/STD were other common reasons. Interestingly many women came to the clinic only to seek a contraceptive method. A large proportion of these women came for a 10-year IUD or its follow-up. These included some women referred or accompanied to the clinic by our village level volunteers or field workers. Satisfied clients had referred many women. The clinic experience confirmed survey findings that there is a very large unmet need of good quality contraceptive services, particularly for reversible long-term methods.

²⁴ The figure indicates the "primary need expressed by women". Many of these women had more than one RH need or problem, e.g. some women who presented to the clinic with unwanted pregnancy were found to additionally have a reproductive tract infection



We noted that the number of women attending the clinic primarily for symptoms of RTI/STD was relatively low, while community based studies have found a much larger prevalence of RTI/STD. This could be either because women with these symptoms did not consider their symptoms to be serious enough or because many RTI/STDs were asymptomatic. By way of laboratory diagnosis of RTI/STD/HIV, we were only able to carry out VDRL and HIV tests by transporting blood samples to the city.

10.3 Cost of services

We established a revolving clinic fund of Rs 20,000, for procuring drugs and medications. The cost price plus a nominal margin to cover procurement and losses from expiry is recovered from most clients. Counselling and clinical check-up is provided free of cost to clients. Certain services are charged at nominal rates -- these include laboratory tests, menstrual regulation and abortion procedures, IUD insertion and delivery -- the income is used for meeting some clinic expenses and to cross subsidise poor persons.

10.4 Service quality issues

In addition to ensuring regularity of services, the clinic pays attention to the following issues:

1. *Women's reproductive rights:* The clinic service makes sure that women themselves decide about contraception or abortion. Women are not required to get spousal or family consent for procedures like menstrual regulation, abortion or IUD insertion. Clinic staff removes Copper-Ts whenever a woman demands it, even if there is no medical indication for the removal. While a woman is investigated for infertility, we insist that her husband undergoes a screening semen examination. Husbands are encouraged to play their part in caring for their wives during maternity and children during illness.
2. *Privacy:* Attention is paid to visual and verbal privacy so that others cannot hear the conversation between a client and the service provider. We found that especially for matters like abortion and infertility, women would not talk freely unless they were alone with the service provider.

3. *Confidentiality*: One woman's needs are not discussed with other clients, her relatives (unless this is a necessary part of treating her problem or the woman herself so desires) or with staff persons not directly involved with her treatment. We found this to be important in a community in which women have limited autonomy and yet may have to take decisions on issues like contraception or pregnancy termination without involving their husbands or mothers-in-law. In the initial months of our work, we shared names of contraceptive users with local ANMs, expecting that this would help them plan their own contraceptive promotion activities better. The example below illustrates an unanticipated effect of this approach - we subsequently shared numbers but not names of contraceptive acceptors with government staff.

Gheesi, daughter of one of our volunteers, had learnt about the importance of spacing between children. Gheesi had a 7- month old child, and wished to space her next pregnancy. She came to our clinic and adopted a Copper-T. Nine months later, Gheesi returned to the clinic and requested that the IUD be removed. She had no side effects and would have liked to space for another 2 years. However, her mother-in-law had come to know about the Copper-T from the local ANM, and was upset. The Copper-T was removed and Gheesi was counselled about other options. She however decided not to use any method, for she was concerned about family opposition. We realized that we had not taken adequate care to prevent disclosure of our client's contraceptive use, to a person who was not her service provider.

4. *Technical quality*: Service protocols have been adapted and used for procedures such as antenatal care, assessing eligibility before IUD insertion, follow-up after contraception, MTP, maintaining asepsis, conducting delivery, obstetric first aid etc. Universal precautions have been instituted, for clinical procedures. We have made sure that written protocols are available at the clinic and have been understood by staff.
5. *Counselling*: Considerable time and effort is spent on providing adequate counselling to those visiting the clinic. Women are often not able to express their needs after entering the outpatient room. This particularly happens with women who come with childlessness or for contraceptive needs. It takes caring inquiries about the woman, her children etc to make her open up. Similarly at the drug dispensary considerable effort is spent on complete and clear instructions in order to make sure that the client understands how to take the medicines and when to return for follow-up.
6. *Client provider relationship*: We have found that certain gender and caste dimensions come into play while providing services. For example, several clients tend to sit on floor in front of a person with higher social status; hence all clients are asked to sit on stools or chairs. Providers take more care in dealing with under-privileged clients -- the nominal cost of drugs and medications or services is reduced for clients who find it difficult to pay.
7. *Women staff*: The doctor, nurse-midwives and clinic attendants involved in providing RH counselling and services to women, are all female. Male staff members take care not to intrude on women's privacy. This allows women to be more comfortable about their treatment in a male dominated community that affords little anonymity.
8. *Service environment*: Nurse-midwives in charge of the clinic oversee the provision of basic amenities such as drinking water, toilet facilities, seating place in the waiting area and overall cleanliness.

9. *Timeliness of service:* Several women come to the clinic from distances of 20-30 km. This involves most of the day and substantial bus fare. Sometimes women coming from nearby villages wish to return within a very short time in case they have not informed their family about the visit or their health need. The clinic staff makes an effort to minimize clients' visits and to enable women to leave the clinic as early as possible – this however becomes difficult on days when there is a heavy rush.

10.5 Summing up...

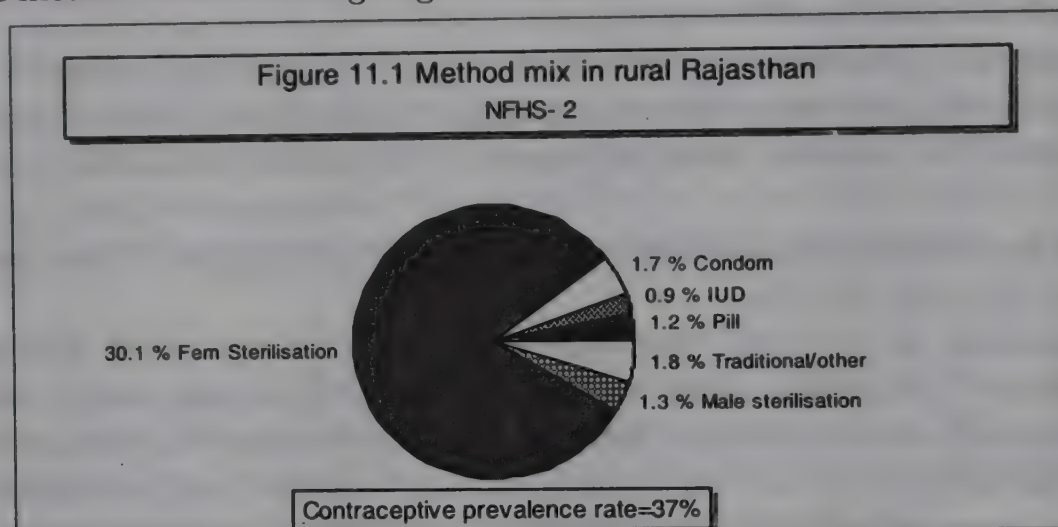
The experience of running the clinic has been extremely valuable. It has served several purposes:

- It has directly benefited the community by enabling access to a comprehensive range of reproductive & child health services
- The clinic has provided us with valuable insights regarding women's health needs, treatment seeking behaviour and social and gender issues that influence women's access to health care. The clinic has acted as window to the community, a role it was intended to serve.
- It has helped us to test innovations such as the "10-year copper-T" and manual vacuum aspiration for early abortion.
- The provision of low-cost, high quality services at the clinic has enhanced the organisation's credibility. This has helped field personnel carry out community educational efforts and facilitated field research and advocacy with panchayats.
- The clinic serves as a site for training service providers and managers and helps to advocate issues on which the organisation is committed to bring a wider change. For example, the clinic charges women for quality Copper-T services – this underscores the fact that people are willing to pay (nominal charges) for quality services. Over time, government staff has come to appreciate the importance of issues like regular access, service quality, and treating clients with respect and dignity.

The Ten Year Copper-T

11.1 Background

India's Family Welfare Programme relies heavily on female sterilization as the primary method of contraception. In states like Rajasthan too, sterilization is the most commonly used method -- the National Family Health Survey-II (1998-9) revealed that 30% couples had adopted female sterilization (figure 11.1) and that 85 per cent of these had not used any other contraceptive method before undergoing sterilisation.



Male sterilization went out of favour among users as well as providers, after the excesses of the emergency era. After the abolition of family planning targets in 1996, the Community Needs Assessment approach was introduced. It emphasized meeting the unmet need for contraception among couples. The National Family Health Survey (1998-9) has shown the unmet need for limiting to be 9 per cent.

Service providers tend to assume that couples wishing to limit their families can be offered only one method – sterilization, that too, female sterilization. However, many couples that wish to limit are unwilling to adopt sterilization. Our work in Kumbhalgarh has shed light on some of the reasons -- every second woman in the area has suffered the trauma of stillbirth or child death. Concern that a child might die after sterilization makes it a less attractive option, especially when the last child is very young. We know from focus group discussions that many women have anxieties about undergoing surgery – they see their bodies as being manipulated or damaged, leading to poor health. Sometimes, the woman wishes to limit but the husband is either unwilling or opposes contraception. In such a case, a woman might be willing to quietly try out a reversible method and perhaps reveal it to her husband later, when the time is appropriate. Sterilization is irrevocable and is always a public procedure – few women in Rajasthan would dare to opt for it in the face of spousal or family opposition. Even when there is no family opposition or discomfort with contraception, a woman who has used a reversible contraceptive method for some months or years might be more comfortable about undergoing sterilization at a later date.

We therefore felt that there are several couples and women who wish to limit, but do not wish to opt for irreversible²⁵ contraception, at least not for some years. Such couples could benefit from a long acting reversible contraceptive method such as the Copper-T. At the same time we were aware of the fact that many women living in our field area feared the side effects of the IUD from past experience, and hence did not trust the method.

One of the world's most popular Copper-T devices -- the Copper-T 380A -- has been around for almost two decades. It was initially recommended for use up to 3 years. By the late nineties long term WHO follow up trials revealed that the Copper-T 380A is effective for at least 10 years²⁶. The Copper-T 380A has not been popular in India because the government FW programme relies solely on the Copper-T 200B (effective for 3 years), while the Copper-T 380A has not been freely available. We therefore decided to introduce the Copper-T 380A in our field programme by positioning it as a reversible alternative to sterilization. Since we wished to differentiate it from the currently available Copper-T 200B, while emphasizing its long action, we called it the "10-year Copper-T". We launched a social marketing initiative to provide and popularise this contraceptive.

11.2 Technical feasibility

The Copper-T 380A is effective for at least ten years. It contains more copper and has a lower failure rate (pregnancy rate 1 in 200) as compared to the Copper-T 200B (1 in 50). It can be used within family planning services just like the Copper-T 200B. *Hence a health institution providing the Copper-T 380A does not need any additional facilities – it can even be inserted by a well-trained paramedic observing the necessary precautions.* Certain limitations of all Copper-Ts must however be borne in mind. A Copper-T cannot be used if a woman has a pelvic infection. Once inserted it predisposes her to future infection, in case she or her partner indulges in risky sexual behaviour. And if the woman does eventually develop a pelvic infection, it might have to be removed. The Copper-T might also be expelled on its own after some months or years, although this is rare after the first few months. Even though nurse-midwives can insert a Copper-T, they must be well trained and observe service guidelines – they must screen the woman to ensure that she is fit to have the device, they must maintain asepsis and observe universal precautions. *A Copper-T cannot be inserted safely in women's homes – it needs a clinic facility.*

11.3 The intervention

Service

We offered the Copper-T 380A through our RCH centre clinic located at Kuncholi in Kumbhalgarh tehsil (Rajsamand district) onwards from July 1998. The 10-year Copper-T was initially offered biweekly by a gynaecologist. After a few months, two nurse midwives (a qualified ANM and a diploma nurse) were trained. They began offering the service 5 days a week. After counselling the nurse midwives used a checklist to screen women and avoided inserting the device in ineligible women. They maintained standard aseptic precautions

²⁵ although sterilization is technically reversible, recanalization services are not accessible and success rates are poor, hence for practical purposes sterilization may be considered as irreversible

²⁶ follow up trials are continuing, it is possible that emerging results will establish its effectiveness for 12 years

during the procedure. After insertion, women were advised to follow up after a month or whenever they had a problem. In the first year of intervention, if a woman had a problem with the Copper-T, clinic staff would try over 1-2 visits to treat it without removing the device. *With experience came the realization that women resent unwillingness on part of a provider, in removing a troublesome Copper-T.* From the second year onwards, staff became more liberal about removing Copper-Ts. A woman with any difficulty or health problem following Copper-T insertion was counselled about her options. If she did not wish to wait and treat the problem, we removed the device, even for what seem to be irrational reasons. This policy of "removal on demand" did not result in more women desiring removals, but on the contrary reassured them that their use of the Copper-T was totally voluntary and under their own control.

Cost

We priced both Copper-Ts. The Copper-T-380A was offered for Rs 100 for the first year, after which the price was reduced to Rs 75. This included the cost of a pregnancy test if required. The Copper-T-200B was initially offered free, since the device was supplied by the government. We later levied Rs 10 to cover the cost of antiseptic supplies. If on routine follow up either type of Copper-T was found to have been partially or completely expelled, and there were no other problems, a fresh Copper-T was inserted at no extra cost.

Promotion

The 10-year Copper-T has been promoted through pamphlets, newspaper inserts, wall stickers, exhibitions as well as individual and group interpersonal communication. Key messages were developed after group discussions with our community volunteers, women and the initial users. In effect, the Copper-T was compared to sterilization. The messages were as follows:

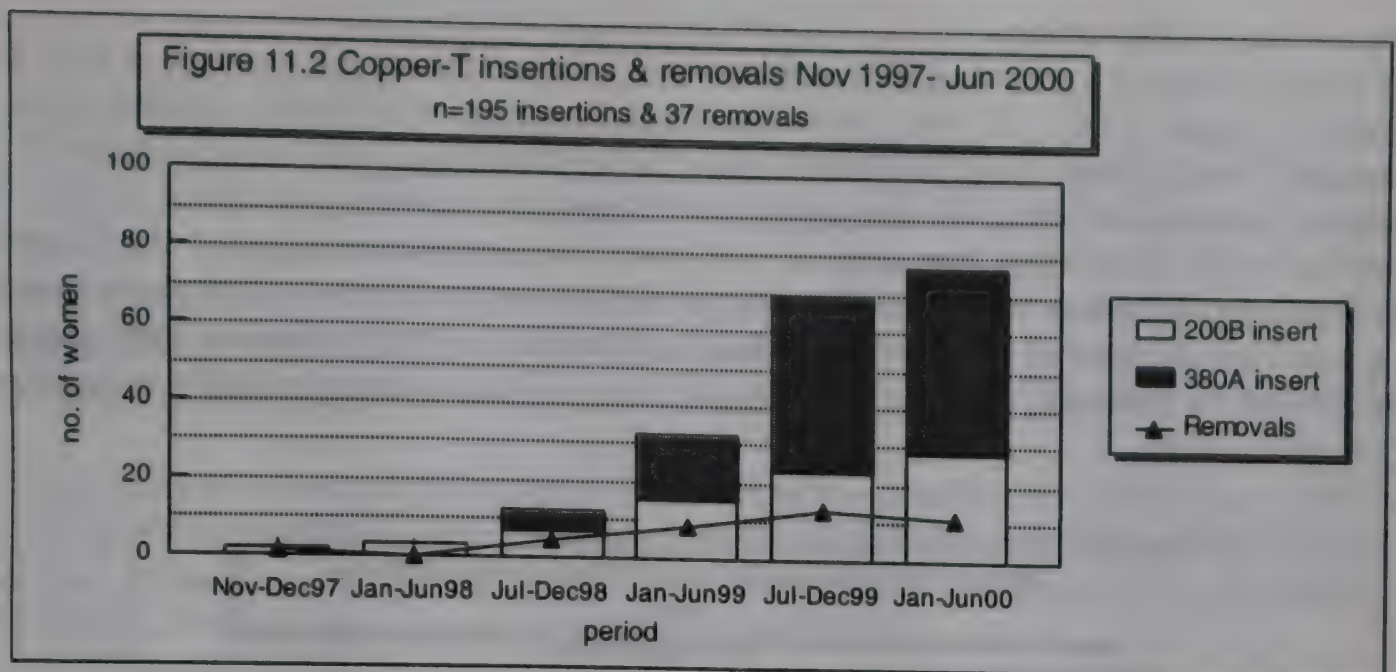
- Women or couples that do not desire any more children now have an option other than the sterilization operation – the 10-year Copper-T
- The Copper-T can be inserted or removed whenever a woman wishes
- The Copper-T is inserted carefully in a hygienic manner only by trained women staff (doctor or nurse), hence the woman remains healthy
- The Copper-T takes only 5 minutes to insert
- After Copper-T insertion the woman can go home and resume work immediately – she does not have to take rest

11.4 Results

We have presented data on all Copper-Ts inserted at the ARTH RCH Centre onwards from Nov 1997, when the clinic commenced operations, till the end of July 2000. This allows us to compare the Copper-T 380A with the TCu-200B, and to examine time trends.

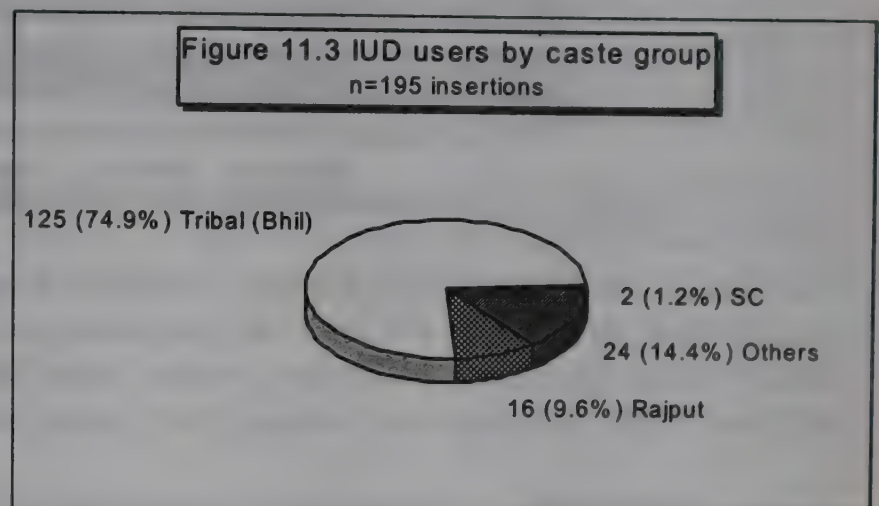
Insertions and removals by month

Figure 11.2 shows the number of Copper-Ts by type, inserted and removed since 1997 – as more women came to know of the service and its credibility increased, the number of insertions rose. In parallel the number of removals increased, stabilising at a cumulative level 15% of all insertions over two years.

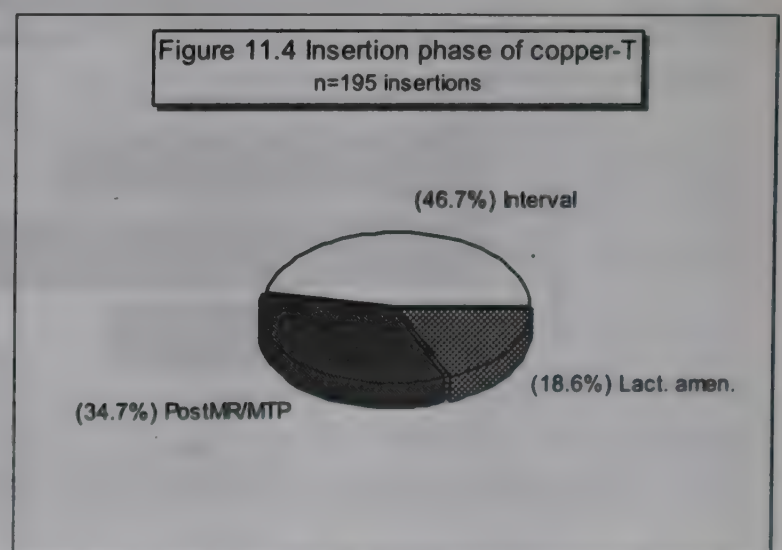


User profile

A disproportionate number (75%) of users belonged to the Bhil-Gameti tribe (figure 11.3), which constitutes 52 per cent of the population. Although promotional efforts by tribal village volunteers were more among their own kin, it was evident that tribal women had responded more actively to the service than women from other caste groups.

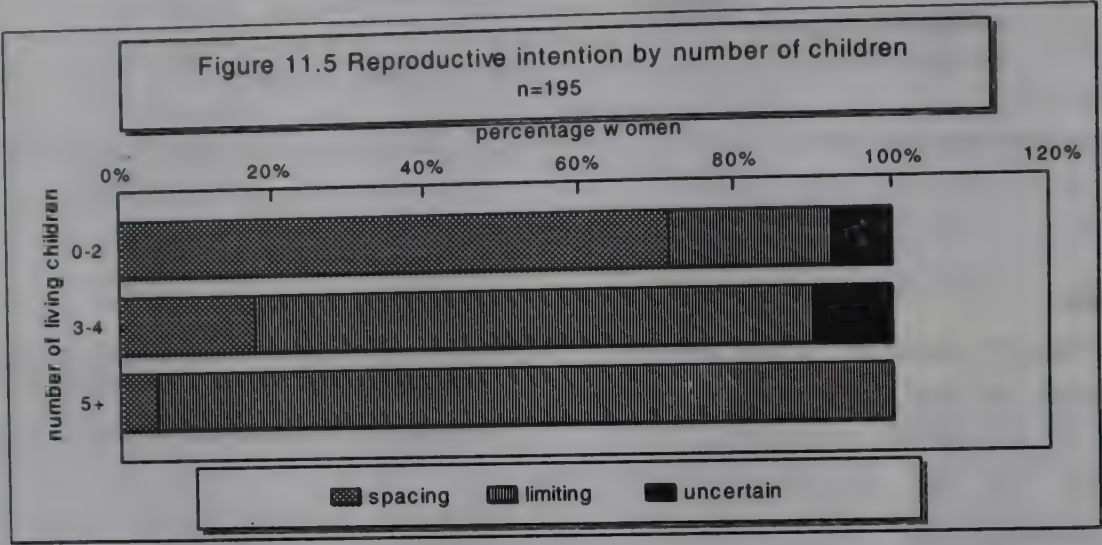


Most (47 per cent) women had the Copper-T inserted in the inter-menstrual period, 35 per cent accepted it after a menstrual regulation or abortion, and 19 per cent during lactation amenorrhoea (figure 11.4). Among the latter women, pregnancy was ruled out either clinically or by urine test. This leads us to the conclusion that an IUD service must additionally have facilities for pregnancy testing, which is not currently offered at subcentre level. Prior contraceptive use was low: only 30 per cent women who opted for the Copper-T had used a contraceptive in the past, most commonly the oral pill. Far fewer (17%) were using a contraceptive at the time of insertion, i.e. they were switching methods.

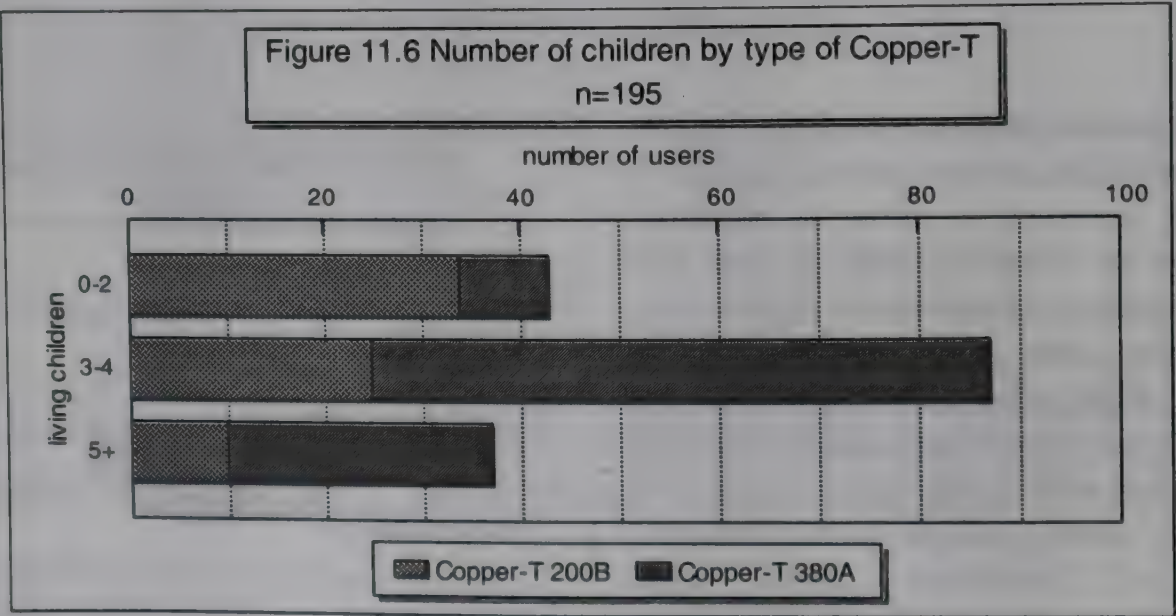


Reproductive intentions

We assessed women’s reproductive intentions and compared it to the number of their living children (figure 11.5) - it was clear that several women with more children than the mandated “small family norm” wished to space rather than limit, while some with few (1 to 2) children preferred to limit. We also noted that 7 per cent women were fence sitters – they were uncertain about their intentions at that point but nevertheless adopted the Copper-T. *Our discussions with women have brought home the fact that the intention to space or limit cannot be assumed by a service provider based on the number of children a woman has, and that the intention might change with time.* Hence for example, a mother of 4 might change from wanting to space to wanting to limit, after a while.



Even though we promoted the Copper-T 200B as a spacing method and the Copper-T380A as a limiting method, at the time of counselling we allowed women the right to choose between them. As expected therefore, women opted for the Copper-T of their choice, even if it did not fit into our projection of spacing or limiting methods (figure 11.6)



Follow up: removal vs. retention

We assessed reasons for removal of 37 Copper-Ts. These have been listed below:

▪ Spontaneous expulsion	10
▪ Side-effects of Copper-T (bleeding, PID)	16
▪ Failure, leading to pregnancy	01
▪ Health problems unrelated to Copper-T, but perceived as such by the woman	02
▪ Family or husband's opposition	04
▪ Pulled out by woman herself for fear of side-effects	02
▪ Remarriage followed by desire for more children	01
▪ Child's death followed by desire for more children	01

The effectiveness of a contraceptive device is related to the duration for which it acts to avert births. Under field conditions, several factors in addition to its technical properties influence the duration of use. We therefore measured retention rates for the Copper-T at the end of 6 and 12 months. Findings have been depicted in the table below.

Table 11.1: Cu-T retention rates at 6 and 12 months						
Copper-T type	Cu-Ts inserted at least 6 months ago	Cu-Ts retained at 6 months	6 month retention rate	Cu-Ts inserted at least 12 months ago	Cu-Ts retained at 12 months	12 month retention rate
TCu-200B	50	38	76%	27	15	56%
TCu-380A	68	53	78%	23	18	78%
Both	118	91	77%	50	36	72%

Although the sample is small, it is evident that most removals or expulsions occur within the first six months. Retention rates for the Copper-T 380A were higher at 6 months and more so at 12 months, in comparison to the Copper-T 200B.

11.5 Summing up...

1. The provision of the Copper-T 380A as a reversible alternative to sterilization has drawn an encouraging response – several poor and illiterate women from an interior, tribal area have opted to pay a nominal amount for the method, in preference to free sterilization services. Some others have used it for spacing. Retention rates remain stable after the first six months have elapsed. Adding this device to the existing method mix has the potential to draw in women or couples that wish to limit, but are not ready for sterilization.
2. A major advantage of the Copper-T 380A is that it places the ability to provide an alternative to sterilization directly in the hands of female paramedical workers. The program's dependence on skilled doctors, equipment and more complex technology can thereby be reduced.
3. One cannot stereotype women into spacers or limiters based on the number of their children. Even with the same number of children, women's reproductive intentions might change over time. A reversible limiting contraceptive such as the Copper-T 380A allows a woman more room for manoeuvre. This is especially useful in communities in which child mortality is high and women's autonomy is low.
4. Apart from good quality of care, an IUD service must respect women's right to adopt or discard the Copper-T at will. Critical to this is a liberal policy of Copper-T removal as per

the client's wishes – service providers must not sit in judgment over the correctness of women's reasons for removal of a Copper-T.

5. These initial findings may be confirmed by carrying out a larger operations research (OR) intervention involving government and private health institutions. The OR intervention must pay attention to IUD service quality and make provisions for assessing continuity of use.

Enhancing Access to Safe Abortion Services

In the course of providing periodic biweekly services at the RCH clinic, we encountered many women with unwanted pregnancy. During focus group discussions, we learnt that women of the area try various options for dealing with unwanted pregnancy, including visiting unsafe providers. Examples of women dying after abortion procedures appear to be well known to women in the community. There being no certified abortion facility in the entire block, we decided to start providing safe abortion services. However, although we were able to carry out similar surgical procedures such as endometrial biopsy, uterine evacuation for incomplete abortion and menstrual regulation; elective abortion (MTP) services could commence only after the clinic was certified by the state government. This took two years. Our clinic represented a low-resource setting -- electric supply was irregular, there was no running water, and the doctor made periodic visits. We were however able to enhance access to safe abortion services in a substantive way. Our salient experiences have been recounted below.

12.1 Improving access and service quality

Abortion technique

We opted for the manual vacuum aspiration (MVA) technique, which uses a 50 or 60 ml hand-held syringe. Research and programme experience has shown this to be a safe and more effective technique than dilatation and curettage (D&C), which has conventionally been used by many providers in India. Unlike electrical vacuum aspiration (EVA), MVA is not dependent on electricity whose supply is irregular in rural areas. By way of pain control, we did not use general anaesthesia or heavy sedation for any of our clients. We instead used a combination of light sedation and analgesia, along with warm and friendly pre-procedure counselling and conversation with the woman during the procedure.

Periodic services

Doctors, especially those trained to perform MTP, are seldom available in rural areas. We therefore tested a model wherein a visiting doctor could provide elective abortion services on a periodic basis. ARTH's clinic offers a bi-weekly first-trimester MTP service. However, this required the introduction of certain parallel measures -- the service had to ensure that trained female paramedics (nurse-midwives) resided in the vicinity of the clinic. Their role was enhanced to make them more effective in carrying out counselling, screening and follow up care. They were trained to handle complications of abortion by providing first aid and referral. Arrangements were made for them to readily hire a jeep to travel with the client to a designated hospital in the city if a woman were to develop complications. Having resident nurse-midwives also meant that equipment could be sterilised in advance during those few hours when electricity was available.

Certification

Certification is required for any facility intending to provide MTP services. A single certificate covers services for all gestations up to 20 weeks. The certificate is issued to private institutions only if expensive equipment for surgery and anaesthesia is installed in advance – these include Boyle's apparatus and instruments for abdominal surgery. These items are virtually never required for first trimester abortions using the MVA technique, given that complication rates are exceedingly low. Even if a complication were to occasionally occur, stabilising the patient followed by transport to a referral institution is a far more viable option than attempting to manage all complications in-house. Hence, current certification requirements are excessive for providing early abortion services in rural areas -- they increase cost and reduce access to services. It took our RCH clinic two years to be certified to provide MTP services, despite the availability of a gynaecologist. This time was required for arranging funds, procuring surgical and anaesthesia equipment, locating an anaesthetist willing to be affiliated to the rural clinic²⁷, applying to district authorities and arranging for their inspection of the facility, and time taken for different state government officers to recommend, approve and finally issue the certificate. In December 1999, after a few persuasive reminders were made at the state capital, our RCH centre was certified. After this, we started providing abortion services initially up to 10 weeks gestation, and subsequently up to 12 weeks. Our experience highlights some of the difficulties faced by private and non-governmental clinics (even if they are staffed by gynaecologists), in attempting to provide safe and legal abortion services.

Client provider relationship

Compared to urban clients, there is a greater social distance between rural clients and service providers. This is especially so in the caste based, feudal communities of rural Rajasthan. Clients are often poor, illiterate rural women with little autonomy, lacking in confidence when "talking" to a well-educated urban provider. Women apprehend that in the course of their interaction with health staff, they might be deftly manipulated into taking decisions that are not in their best interests. Until and unless they trust the provider, they tend to be wary and circumspect about being counselled. So as not to be manoeuvred into taking a "wrong" decision, some women even make a resolute decision before coming to the clinic and then stand firm by their choice irrespective of counselling. In such situations, providers at our clinic took extra care to see that they were warm and non-judgmental. Looking down upon rural clients or calling them "dirty"²⁸, deters women from utilising safe services – such attitudes are scrupulously avoided.

Confidentiality

There appears to be less anonymity in villages, accompanied by more curiosity about major events in a woman's reproductive life cycle. Elective abortion attracts attention and tends to carry a stigma in the eyes of many. Group discussions with village volunteers and individual clients had revealed that women wish to be absolutely certain that confidentiality will be maintained, before they choose a facility for abortion. Disclosure of a woman's decision to undergo abortion might even provoke a violent response from her family. Our staff therefore paid considerable attention to the issue of confidentiality – this included the use of camouflage terms to refer to MTP clients and procedures during conversation between staff members.

²⁷ To meet certification requirements an anaesthetist must be available with the institution. However, first-trimester MVA procedures can be safely carried out without the use of general anaesthesia.

²⁸ Poor, rural women in Rajasthan have less access to water and often appear unhygienic

Communication

Public sector IEC programmes have virtually ignored the issue of safe abortion – they have produced no printed material on the subject. ARTH's surveys have revealed that women and men are not aware that abortion is legal. This makes women believe that they are breaking the law when they seek abortion, and makes them more vulnerable to exploitation. Many women delay seeking abortion -- they are not aware that early procedures are safer, cheaper and more accessible. Because the fees charged for abortions vary widely, women are unclear about the amount they need to mobilise before seeking the service. We addressed the following critical communication issues by using pamphlets, training opportunities, individual and group meetings to convey key messages.

- Hazards of unsafe abortion
- The legality of abortion -- legal providers and facilities
- The effect of delaying the decision to seek abortion
- Cost of abortion services

Costs

There appears to be no such thing as a “free” abortion service, even at public facilities. Over the years both providers and clients have come to expect that some money will change hands. The cost of abortion is often arbitrary and tends to increase with gestation and clients' desperation. Charges for the abortion procedure are much higher than equivalent technical procedures such as endometrial biopsy or D&C performed for other gynaecological indications. Moreover, other costs (on drugs and medications, tips to staff to buy their silence and cooperation, etc.) add to the woman's financial burden. Apart from distance to the facility, high and arbitrary costs deter clients from going to safe providers. We charged a fixed, nominal amount²⁹ that included the cost of pregnancy test if required, pre-medication and medicines given after the procedure (antibiotics, iron etc.). The cost of services was widely publicized.

12.2 Providing services to women with unwanted pregnancy

Between November 1997 and June 2000, 196 women attended the RCH clinic for unwanted pregnancy. We recorded the profile of these women and prior attempts to terminate the pregnancy. Through clinic-based surveillance, we also assessed actions taken by those who had been refused termination at our clinic and had been referred to the city.

Profile of women seeking abortion

The 196 women seeking abortion at our clinic in Kumbhalgarh were in their late twenties (median age 29 years), married and had a median of 3 living children (table 12.1). Women's commonest reason for considering the pregnancy as unwanted, was either that they had completed their families or the youngest child was too young. Among nearly half, the age of youngest child was less than 24 months. The proportion of those who sought abortion because the pregnancy was out of wedlock was low. The majority sought for termination in the first trimester. However, this represents a self-selection process, given that our clinic publicised the availability of only first trimester services.

²⁹ Rs 150 for a menstrual regulation up to 6 weeks and Rs 250 for MTP up to 12 weeks

Table 12.1: Profile of abortion seekers at RCH clinic (n=196)		
	Number	Percentage
Age		
15-19 years	13	6.6
20-29 years	84	42.9
30-39 years	92	46.9
40-49 years	7	3.6
Marital status		
Currently married	185	94.4
Never married	5	2.6
Separated	3	1.5
Widowed	3	1.5
Living children		
Nil	13	6.6
1-3	104	53.1
4 and more	89	40.3
Age of youngest child		
<24 months	97	49.5
>24 months	77	39.3
Not applicable / not recorded	22	11.2
Gestation on presentation		
<12 weeks	165	84.2
12-20 weeks	26	13.3
>20 weeks	4	2.0

Prior attempts at pregnancy termination

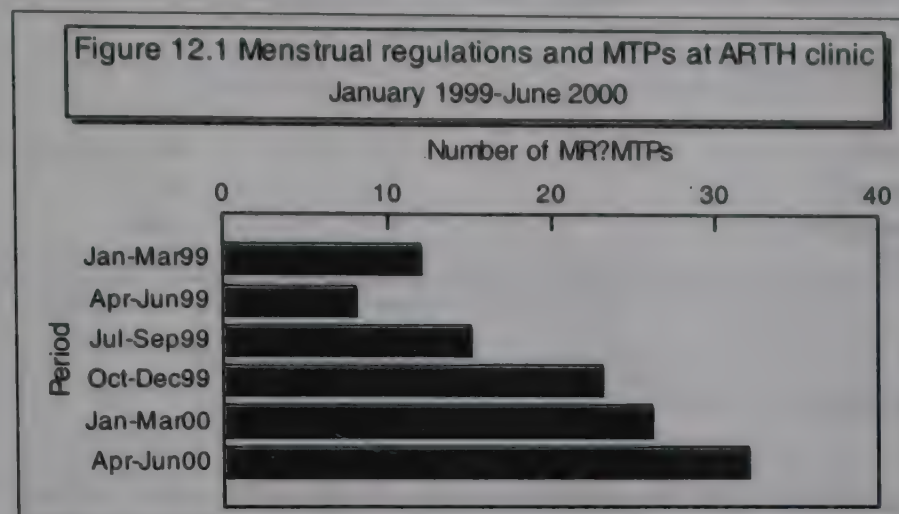
We realised that a visit to the clinic for unwanted pregnancy was a major decision for most women. We therefore anticipated that some women would have attempted to deal with the unwanted pregnancy before coming to us. Being a busy clinic, information could be collected only from 107 women (table 12.2). We found that about half the women had tried out what they saw as a simpler remedy, in order to avoid a surgical termination procedure.

Table 12.2: Attempts to abort prior to visiting ARTH clinic		
Methods tried (n=107)	Number	%
No attempt to abort	43	40.2
Attempt to abort (81 methods tried by 64 women)	64	59.8
• Tablets	50	46.7
• Home remedy	25	23.4
• Injections	3	2.8
• IUD insertion after missed period	1	0.9
• Faith-healing	1	0.9
Total	107	100

Attempts to abort before visiting a facility providing safe abortion services might result in a delayed visit to that facility. Induced abortion at later gestations not only carries a higher chance of complication, but also costs more. Moreover, peripheral, rural facilities can only provide early abortion services, generally up to 8-12 weeks. A delayed visit might therefore mean that the woman cannot undergo abortion at that facility – she would need a referral to a larger, more distant, more aloof and expensive facility.

Number of procedures

In the earlier months, when the clinic was not certified for performing MTPs, only menstrual regulation procedures were carried out (an average of 4.8 procedures per month). After the clinic was certified (December 1999), MTP up to 10 weeks was offered, and the number of MR/MTPs gradually went up to an average of 9.6 procedures per month in initial 6 months



(figure 12.1).

Outcome of referral for abortion

Sixty-eight women seeking abortion were refused termination at our clinic between Nov 1997 and June 2000 – they were referred to one of 3 suitable facilities in Udaipur City, 52 km away. In the initial 24 months, many were refused because the clinic had not been certified to perform MTP. Subsequently, the major reason for refusal was gestation greater than 10 weeks³⁰. Out of 68 women, we were able to follow up 47 in their villages within 6 months of their visit to the clinic. The rest could not be followed up either because they came from distant villages outside ARTH's outreach area or because they denied ever having visited the clinic for an unwanted pregnancy.

Table 12.3: Outcome of referral of women seeking abortion, to a facility in the city (n=47)

Outcome of referral for MTP	Women	%
Continued with the pregnancy	28	58.3
Underwent MTP at urban facility as referred	11	22.9
Underwent abortion from a local clandestine provider	4	8.3
Reported having undergone a spontaneous abortion	4	8.3

We learnt that only about one fourth of referred women had exercised the referral option and visited a facility in Udaipur city (table 12.3). More than half had continued with their pregnancy. Four women reported having gone to a (clandestine) provider, while another four reported spontaneous abortion. It is possible that some of those reporting spontaneous abortion had in fact undergone elective abortion.

Post-abortion contraception

All women who sought abortion were counselled about contraception, but were not pressurised to use contraceptives. Although the majority of women wanted contraception, more than a third went back without a contraceptive after menstrual regulation or MTP and continued to expose themselves to the risk of unwanted or mistimed pregnancy (table 12.4). A

³⁰ After gaining experience and confidence with the MVA technique, we later managed pregnancies up to 12 weeks at the clinic itself

few of them returned after some months with another unwanted pregnancy. The primary reason for non-use of contraception among women who wanted to space or limit was fear of side effects of modern methods or lack of spousal approval.

Table 12.4: Contraceptive use after menstrual regulation / MTP (n=123)	
Contraceptive used	%
Nil	37.4
Oral pills	03.1
Copper-T	43.0
Sterilisation	0.8
DMPA	15.6

3.4 Summing up...

1. Even though abortion was legalised nearly 3 decades ago, access to MTP services continues to be poor in rural areas. In the event of unwanted pregnancy, rural women have to choose between travelling to cities and going to unsafe, local providers. Women from interior villages find it difficult to travel to cities to seek abortion. They either continue with unwanted pregnancies or expose themselves to the risk of complications at the hands of clandestine providers. The large number of women with unwanted pregnancy correlates with poor access to spacing contraceptive services. It is disturbing to see that in a country with a well established family planning program, so many women have unwanted pregnancy because they have not had access to contraception.
2. Those who approach an abortion facility go there after trying out simpler options like “tablets” or injections. This delays their arrival at a safe facility. Delay into the second trimester can make the abortion procedure technically complicated and expensive, and might require referral to a distant urban facility.
3. Along with reversible contraception, there is urgent need to enhance access to safe abortion services in rural areas. Our experience demonstrates that it is feasible to do so in low-resource settings as exist in primary health centres. Periodic MVA services might be considered for this purpose.

Promoting Safe Motherhood

13.1 Basis for action

Indian women face an unacceptably high lifetime risk of dying from maternal causes, of 1 in 37. India has a maternal mortality ratio of 407 per 100,000 live births, while the corresponding figure in the state of Rajasthan is even higher, at 670 (SRS, 1998). Analytical studies have revealed that series of linked events make a fatal outcome likely, if a woman develops a health complication during pregnancy, childbirth or puerperium³¹. As a result, the pathway to maternal death has been understood on the basis of “three delays”, as follows:

- *Delay in decision-making (to seek emergency care)*: Childbirth is considered to be routine, home level event in rural areas. The family or TBA may not recognize the emergence of a serious complication in the early stages. Even if they do realise that something has gone wrong, they might not be willing to shift the woman to a referral hospital. Such delay arises from a combination of factors – families apprehend high costs or rude and impersonal behaviour on part of staff, there is lack of faith in the hospital.
- *Delay in transport*: Having decided to shift the women to a hospital, the family may not be able to transport the woman to an emergency obstetric care facility immediately – they might be living far from a road, public or private transport might be unavailable in the village or it might be unaffordable.
- *Delay in receiving definitive care after reaching an emergency facility*: At the hospital, required staff such as surgeons or anaesthetists might not have been posted; staff might be on leave or absent; critical equipment might be out of order, medication or blood transfusion facilities might be lacking or service guidelines might not be followed. As a result, even after arrival at hospital, definitive care might get delayed.

Most maternal deaths can be prevented by using the Safe Motherhood approach³², which rests on 5 pillars of action:

- a. *Contraception*: When a woman becomes pregnant fewer number of times, her chances of dying due to maternity are also reduced. By reducing the number of unwanted pregnancies, universal access to contraception can prevent up to 25 per cent of maternal deaths in communities having high fertility and high maternal mortality rates.
- b. *Antenatal and postnatal care*: Proper examination and care during pregnancy or puerperium enables providers to identify and treat some complications early, and prevents the emergence of a few others. It thereby reduces the number and severity of obstetric complications.

³¹ Puerperium is the 6-week period after the end of a pregnancy, during which women are in a vulnerable state of health

³² The approach is based on the “Safe Motherhood Initiative” launched by international consultation of UN, governments, donors and large NGOs in Nairobi, Kenya, in 1987

- c. *Skilled attendance at delivery*: Most maternal deaths occur from complications arising at the time of delivery or soon thereafter. Accurately predicting as to which woman will develop complications is impossible. Close clinical monitoring of women during delivery to detect early signs of complications, along with prompt management and referral are therefore critical. These functions require a set of clinical and managerial skills on part of the provider. It is essential that a sufficiently skilled health provider be present at the time of delivery.
- d. *Essential obstetric care*: As discussed above, quick and correct management of complications in the early stages is vital for reducing chances of death. Hence, all women should have access to a facility that provides essential³³ obstetric care (EOC) within reasonable distance and at affordable cost. Where EOC is not available in the vicinity, transport to the nearest available facility must be readily available.
- e. *Safe abortion services*: A substantial proportion of maternal deaths are due to unsafe abortion – these arise when women with unwanted pregnancy resort to clandestine providers. Access to contraception can substantially reduce but not eliminate the need for abortion. Enhancing access to safe abortion services reduces chances of maternal death due to unsafe abortion.

For scattered, rural communities, the most critical interventions for safe motherhood are the availability of a skilled attendant³⁴ at the time of birth, and that transportation is available in case of an emergency. Since the bulk of deliveries in rural Rajasthan occur within women's homes (a situation that will change only gradually), this service should be available in the home setting. Rural communities currently rely on traditional birth attendants (TBAs) or relatives for delivery care. Even after training, the TBAs' role remains limited to attending normal deliveries and recognizing complications well after they are established. Auxiliary nurse-midwives (ANMs) of the government health and family welfare department are expected to live within their field areas and attend deliveries, but few actually do so. A survey in the southern part of Kumbhalgarh block (1997) revealed that nurses or ANMs attended 4 per cent of deliveries, while the National Family Health Survey, Rajasthan (1999) revealed that only 14.3% rural deliveries in the state had been attended by a doctor or other health professional.

Professionally trained nurse-midwives can deliver a large part of safe motherhood interventions in rural areas. The experience from countries like China, Malaysia and Sri Lanka has shown that upgrading the skills of midwives enables them to respond to obstetric emergencies and reduce maternal deaths. In such situations, midwives provide "obstetric first-aid" in order to stabilise women before referring them to a hospital. For example, a midwife can be trained to administer intravenous injections or fluids, initiate antibiotics for women with sepsis, commence treatment for women with hypertension and remove the placenta if immediate referral is not feasible. Given the need for sensitive and affordable services among

³³ Essential obstetric care includes a set of interventions considered essential to treat life threatening maternal complications. These interventions include parenteral (i.e. injectable) antibiotics, oxytocics (drugs which make the uterus contract to stop bleeding), sedatives or anticonvulsants (for eclampsia); manual removal of placenta (to stop bleeding), removal of retained products of conception (to prevent bleeding and infection), assisted vaginal delivery (to alleviate prolonged labour), surgery (caesarean section) and blood transfusion.

³⁴ In 1996, WHO shifted its focus from *trained* birth attendants to *skilled* attendants. This shift was based on the recognition that someone who has been trained is not necessarily skilled; "trained" implies but does not guarantee the acquisition of knowledge and ability, while "skilled" implies the ability to provide competent care and assistance during pregnancy, childbirth, and the postpartum period. A skilled birth attendant can be a midwife, a nurse with additional midwifery education, or a physician with appropriate training and experience, but does not include trained traditional birth attendants.

large numbers of women in small towns and villages of rural Rajasthan, there is scope for professional midwives to act as free standing practitioners of maternal and related reproductive health care, provided they can be suitably trained, equipped, empowered and supported. However, expanding the role for midwives is to an extent restricted by nursing council regulations regarding the procedures that they are allowed to perform. There is a need to bring about a policy change in favour of a more independent role for midwives – this would therefore need demonstration that they are effective and reliable in those situations in which the alternative is denial of life saving services to women.

ARTH's ongoing safe motherhood intervention in Kumbhalgarh provides maternal and neonatal health services through professionally trained community midwives. In addition, it enhances the role of panchayats and men in the family, in contributing to safe motherhood.

13.2 ARTH's interventions for Safe Motherhood

Safe motherhood services centred on nurse-midwives

i. Additional safe motherhood services: ARTH's bi-weekly RCH service at Kuncholi was upgraded to provide additional safe motherhood services in October 1999. A pair of nurse-midwives was provided additional training in obstetric skills (table 13.1). In addition to providing antenatal-postnatal care and 24-hour delivery services, they run a daily outpatient's service at the RCH centre, where they provide contraception, detect early pregnancy, counsel women with unwanted pregnancies, manage or refer persons with reproductive tract infections and sexually transmitted diseases, and treat common diseases of infancy. A gynaecologist visiting the clinic twice a week provides additional services, trains midwives on an ongoing basis and reviews their performance. Two female attendants³⁵ assist in keeping the premises and drapes clean, arrange for water (running water is unavailable), and assist women during delivery.

ii. Obstetric flying squad (OFS): On being called to attend a home delivery or complication in a pregnant or recently pregnant woman, a nurse-midwife and a male field supervisor reach the woman's village home on a motorcycle. They carry along an essential drug and equipment kit. The midwife carries out a home delivery and monitors the woman's clinical progress. She looks for signs of maternal complications, manages them as per clinical protocols and assesses whether referral is required.

iii. Emergency transport and referral: In case the midwife finds on the basis of clinical assessment that a woman needs a higher level of care, she and her male colleague discuss treatment options with the woman and her family. The two of them encourage the family to opt for referral care at the medical college hospital³⁶ in Udaipur city, arrange and subsidise

³⁵ Nurse-midwives need an assistant to insert an IUD or attend a delivery, who assist them by holding the torch in absence of electricity, by pouring water for hand washing, by holding a Sim's speculum, by washing used linen and by cleaning the premises particularly after delivery. We felt that a nurse-midwife cannot rely on the client's relatives for these functions, since some women seeking RH services (e.g. IUD insertion) prefer to come alone.

³⁶ We considered and then dropped the option of emergency referral to private hospitals on realising that 24-hour services were not readily available, and that the costs were much higher than those at the government hospital

transport³⁷, and accompany the woman all the way to the hospital. At the hospital, the nurse midwife contacts emergency room staff to facilitate the woman's admission without delay. Before returning to her duty station, she informs ARTH staff in Udaipur³⁸ about the admission. A social worker based in Udaipur then takes over - he maintains daily contact with the patient and her family, negotiates with hospital staff on their behalf (if required), helps them to minimise treatment costs³⁹ and tracks progress of treatment till the woman leaves the hospital.

Table 13.1: Obstetric skills in which nurse- midwives have been trained		
Obstetric complication	Skills required for detecting it	Skills required for providing first aid or treating it
Anaemia	Haemoglobin estimation Detecting anaemia by physical examination	Deciding whether to treat or refer Giving oral or injectable iron
Pre-eclampsia and eclampsia	Measuring blood pressure Testing for albumin in urine Interpreting the findings Recognising signs and symptoms of impending eclampsia	Referring / managing pre-eclampsia Maintaining airway Giving oxygen Giving first dose of anticonvulsants Recording observations (BP, respirations, reflexes, albumin urea)
Bleeding in early pregnancy	Detecting cause of bleeding Pelvic examination Detecting anaemia Monitoring vital signs	Oxytocic injections Starting IV fluids
Bleeding in late pregnancy	Monitoring vital signs	Avoiding pelvic examination Starting IV fluids and advising early referral
Prolonged and obstructed labour	Use of partograph Detecting abnormal presentations & multiple pregnancy Early recognition of obstructed labour Recognition of maternal / foetal distress and dehydration	Giving antibiotics and IV fluids Early referral
Retained placenta	Diagnosing retained placenta Monitoring vitals and bleeding	Inject oxytocic drugs Start IV fluids Controlled cord traction
Postpartum haemorrhage	Recognise PPH and its cause Inspect cervix and vagina to identify lacerations	Inject oxytocic drugs Start IV fluids Bimanual compression of uterus
Puerperal sepsis	Recognise signs and symptoms of puerperal sepsis Examination of a woman with puerperal fever	Start antibiotics IV fluids

³⁷ they hire a local jeep and directly pay predetermined costs in case the woman belongs to a poor family

³⁸ the midwife telephones designated staff members in the office or at their residence, depending on the time

³⁹ costs to poor patients are minimised by providing financial assistance for drug purchase, accessing government benefits for families living below the poverty line and confronting requests for unofficial incentives

iv. Outreach service

The midwives hold half-day, village-level “field clinics” in 22 project villages on fixed days at predetermined fixed venues, where counselling and services for antenatal, postnatal and neonatal care, contraception, childhood illnesses and other minor ailments are provided. If nurse-midwives identify a problem that they cannot manage, they refer the woman to the gynaecologist at the RCH centre. Midwives and the field supervisor also utilise the field clinic opportunity to supervise village volunteers. Field clinics provide women an opportunity to develop rapport with nurses, and to plan their place of delivery.

Promoting male responsibility

Two (later, three) male social animators and one male supervisor were given the responsibility of inculcating among men, a greater sense of responsibility towards women’s reproductive health needs and rights. They in turn identified link persons in most hamlets – these were young males who were willing to stock condoms and interested in helping with men’s education. This team of persons has focused on men’s role in matters of parenthood, family planning and maternal care. The strategy that they have adopted is outlined below:

- i. *Sensitisation of the community through rallies, exhibitions and puppet shows:* Large rallies (*gram sammelans*) gatherings were organised, one at tehsil level and two at panchayat level. They featured keynote presentations, exhibitions and open forum sessions for sensitising the community to the problem of maternal deaths, teenage pregnancy, reproductive rights and male responsibility, and asked them to suggest possible solutions. A resolution based on these suggestions was submitted to district authorities. The project also held smaller exhibitions and puppet shows in each village, targeting a general audience.
- ii. *Short group educational sessions for young men:* Social animators would gather small numbers (3-10) of young men under a tree or on a *chaupal* (meeting platform) and raise issues related to teenage pregnancy, safe abortion, men’s RH needs, etc. They widely distributed pamphlets carrying messages on key services in the local Mewari dialect. After the short (15-30 minutes) session, they would distribute condoms to interested men. An average of 732 men have participated each month in these meetings.
- iii. *Contact with individual men during critical periods in the family reproductive cycle when they are likely to be receptive to education:* Social animators contacted husbands one to two times during their wife’s pregnancy and orients them about antenatal and postnatal care and skilled attendance during delivery. They educated them about danger signs that might arise, and how to deal with them by arranging for transport and money well in advance. Individual men were also contacted after delivery – social animators met fathers of young infants (0-2 years old) during home visits and discussed infant care, immunisation and contraception for spacing or limiting the next birth.
- iv. Community based distribution of condoms was carried out by social animators, volunteers and male link persons. In addition, RCH clinic provided family planning counselling, STD and infertility services for men.

Mobilisation of panchayats

Recognising the male dominated dynamic nature of panchayats⁴⁰, social animators and the supervisor have worked with gram panchayat members on issues of male involvement related to maternal-neonatal health. They have presented evidence of unsafe motherhood in the area and suggested ways in which the community might work with the project to tackle the problem. Subject to the passage of a resolution by the panchayat or gram sabha, a maternal health card has been introduced in each panchayat, with the following purposes: (a) It enables the gram panchayat to actively register pregnancies and monitor provision of maternal care by health personnel; (b) It helps service providers (nurse-midwives) to provide quality services by acting as a clinical checklist, and by guiding decision-making on the place of delivery and referral; (c) It acts as a tool for health communication, and thereby boosts the demand for maternal health services. The card is to be kept by women throughout the maternity period.

Medical and social audit through verbal autopsy: Verbal autopsy is being carried out in respect of all maternal deaths in the field area by project staff. As a scientific evaluation tool, verbal autopsy has been standardised internationally. Thirteen verbal autopsies were carried out during this period – these cases shed light on the cause of deaths, the sequence of clinical events and efficiency of management of clinical cases. They have been used to assess the contribution of the three delays that lead to most maternal deaths. Panchayats are encouraged to review all maternal deaths in their area and take corrective measures for this. The results serve a useful advocacy role – project staff shares them with the community, panchayat members and with the referral hospital. The results of verbal autopsy have been detailed in section I of this monograph.

13.3 Results

Utilisation of services

In the initial 13 months from Nov 1999 to Nov 2000, safe motherhood interventions have turned up positive results. Although it took a few months before the nurse midwives received additional training and community developed trust on them, now they are quite skilled to provide a wide range of services. Several women have been seeking antenatal care -- although many come asking only for tetanus injections, a minimum essential package of antenatal care⁴¹ is provided, so that complications can be detected and managed in time. Most importantly, they have been called to attend 45 deliveries in the initial 13 months (table 13.2). Most of these women were those whom the families considered as being at risk – they either were adolescents with a first pregnancy, had already suffered repeated child losses or had developed a complication.

⁴⁰ one third of all panchayat members including office bearers are women, however the effective leadership and decision-making is virtually always in the hands of selected male members working in league with the panchayat secretary (a government official)

⁴¹ this includes hemoglobin estimation, blood pressure, assessment of uterine growth, fetal presentation, fetal heart sounds and albuminuria, tetanus toxoid injection, iron tablets, treatment of other conditions, counselling about the place of delivery and education about danger signs

Table 13.2: Utilisation of safe motherhood services

Activity (April 1999 – Nov 2000)	Number
Total deliveries attended by midwives (Nov 1999-Nov 2000)	45
• Home	12
• Institution (ARTH Safe Motherhood Centre)	19
• Referrals to Udaipur city for emergency obstetric care	14
Antenatal care (number of women paying at least one visit)	415
• Outreach field clinic	218
• At SMC clinic (by midwives, supported by doctor where necessary)	197
Postnatal care visits by midwives at home level (number of women)	43
Management of abortion complications	14
• Managed locally	11
• Referred to city hospital	3
MTPs (1 st trimester) and menstrual regulation procedures	161
Number of women who received financial assistance for referral care & transport	6

The nurse-midwives have managed to recognise emergencies and provide obstetric first aid where needed and have facilitated family decision making about referral and transport. Fourteen women with complications were timely detected and referred. Some of these needed subsidy for referral care and transport. Considering the fact that nurses are new to the community and had relatively less practical experience in obstetric care to begin with, this response indicates that a latent demand for institutional deliveries exists even in this community where nearly 90 percent deliveries take place at home.

An example of a woman managed by nurse-midwives has been described below.

Sovni was a 17-year-old girl with a 7-month pregnancy. She had received one antenatal check-up. Her parents lived in a hamlet about 3 km from the village bus stop. One day, her father came to the clinic to call the nurse-midwife. On reaching their house, the nurse-midwife learnt that Sovni had been having strong abdominal pains along with vaginal bleeding for the past few hours. She discovered that the hand of the foetus was coming out ("hand prolapse"). This meant that the foetus was in a transverse (horizontal) position, a condition that requires delivery by caesarean section operation. The nurse started intravenous fluids for Sovni and informed the family about the need to refer. The father did not have any money to arrange for transport and treatment, and hence was reluctant to go to the city. The local TBA suggested that she be taken to the local ayurvedic dispensary. The family and the TBA were persuaded to go to a city hospital for admission followed by possible operation and blood transfusion. The nurse-midwife also reassured them that most expenses related to transport and treatment would be borne by ARTH. The accompanying field supervisor arranged for a jeep and Sovni was taken to the medical college hospital accompanied by the nurse-midwife. Although a stillborn foetus was delivered by caesarean section within 2 hours of arrival, Sovni herself did well and returned home 8 days later. A large part of treatment costs were borne by ARTH from a project subsidy fund.

Poor, illiterate and (especially) tribal families are often very reluctant to go to city hospitals. They fear high costs, unfamiliarity with hospital, and exploitation. We tried to help such families by providing them transport and treatment subsidy, by having a staff member accompany them for admission, and by keeping in touch with them and the hospital staff after admission. Even then, some families were not willing for referral, or left hospital without completing treatment. This is illustrated by the example below.

Gamni, a 26-year-old tribal woman, attended the RCH centre with complaints of continuous bleeding over the past month. In private, she acknowledged having visited a local provider who had inserted some herbs into her uterus. She was diagnosed as having septic induced abortion (grade I). The family resolutely refused referral, hence she had to be treated conservatively for a few days on outpatient basis at RCH centre itself. When her condition failed to improve, they were somehow convinced about the need for referral. Gamni was transported to a government hospital in the city, accompanied by a nurse-midwife who helped to get her admitted. Since the family was very poor, ARTH staff arranged for transport and also contacted hospital staff to give her free medicines. Gamni received free medications through the efforts of some hospital personnel. However, after 4 days we learnt that Gamni and her family had abruptly left the hospital without informing the staff. On contacting her at home in the village, we learnt that certain staff person(s) on night duty had demanded Rs 25 for giving each scheduled injection. The family had carried Rs 250, which soon got over. They therefore decided to return home without completing the treatment. We were unable to confirm from any other source that this indeed had happened, were unable to ascertain the identity of "staff" persons who had allegedly demanded payments. After this episode, we assigned a social worker to contact all admitted patients, especially tribal women, 1-2 times each day, and to keep track of treatment and costs for the entire duration of hospital stay.

In some cases during the initial months, our nurse-midwives referred some women for prolonged labour. Some of these women subsequently delivered normally at the city hospital, leading the family to question the need for referral in the first place. Although we made an attempt to minimise such instances, we realised that this to an extent would be an inevitable feature of a referral and transport arrangement that relied on community level nurse-midwives.

Men's involvement

Contacting men has not been very easy – up to 30% husbands of recently delivered women had migrated out of the village for purpose of employment. Even those who lived in the village would be difficult to contact in their homes. When we attempted to hold group educational sessions with adolescent boys, older men would also want to participate. Among those who could be contacted and assembled, it was easier to communicate with tribal men on matters of reproductive health – they seemed to have a more open and matter of fact attitude about these matters. Men of other communities often were not interested in participating in group sessions but did open up during individual sessions.

Despite these difficulties, we have noticed evidence of male involvement in the following aspects:

- In 2000, fifty six per cent men reported having advised their wives to take antenatal care, while twenty nine per cent accompanied their wives during antenatal care visits (baseline data not available).
- After two years of intervention, fifty three percent men reported helping their wives in household work during pregnancy. We had not collected baseline data.
- There has been a substantial increase in the number of men taking condoms from ARTH personnel, over the months of intervention – this has been detailed in a succeeding section on community-based distribution. The end-line survey revealed that seven per cent husbands of recently delivered women reported using condoms after the last birth.
- Communication between spouses on planning the next pregnancy increased marginally increased from 23 percent in 1998 to 33 percent in 2000.

- We have anecdotal evidence from statements of women visiting the RCH centre, that their husbands have become more concerned and cooperative about their health. More men are also seen accompanying their wives and daughters to the RCH centre. Both these aspects would however need to be substantiated.

An improvement in men's sensitivity and participation must logically have contributed to the improvement in service utilisation (table 13.2) in our field area, given that men continue to exercise control over decision-making as well as over resources (most of our services are priced nominally).

13.4 Summing up...

The following findings have emerged from our initial experience in establishing a safe motherhood programme:

1. There is little demand for antenatal care and little family and community support for women during pregnancy. However, this the picture can rapidly change once quality services become accessible.
2. In a community where nearly 90% deliveries have been taking place in homes and by unskilled providers, there is a latent demand for institutional deliveries, especially for women considered to be at high risk by their families. Such demand can be uncovered if reliable services by a skilled provider were to become locally available. The tendency has been to associate institutional delivery with the presence of doctors. However, in interior areas in the absence of doctors, professionally trained midwives seem capable of rendering a large portion of safe motherhood services. Community demand for their services is based on their track record and perception of their skills – this takes a few years to develop.
3. Most families, especially those from tribal and other marginalized communities, are reluctant to go to the city for referral care. However, a combination of financial assistance and availability of a person to accompany them encourages many to heed advice about referral, should a life-threatening emergency arise.
4. In Rajasthan and in similar areas of India characterised by high maternal mortality rates, the option of investing in nurse-midwives by providing them better training, equipment, supplies, assistance, security and mobility needs to be seriously considered.
5. A safe motherhood programme may use verbal autopsy on an ongoing basis to assess the medical causes and social circumstances associated with maternal deaths occurring in the area. The potential for its use by trained laypersons for the purpose of social audit at panchayat level may be further explored.

Community Based Education & Distribution

14.1 Background

Many health programmes have utilised laypersons to distribute products like contraceptives, ORS and iron tablets within communities. The most extensive experience with such “community based distribution” (CBD) has been in the field of family planning. Community based distribution acquired renewed importance in the past decade when access to reproductive health services was acknowledged as a way of enabling people, especially women, gain greater control over their lives. High unmet need⁴², especially for spacing contraception, has persisted in the state of Rajasthan. This suggests that existing health services do not reach a large proportion of those who need them. Attempts have therefore been made to improve access to a range of reproductive and child health services through local community based workers or volunteers. These “CBD agents” have the advantage of being close to the community and being familiar with local culture and sensitivities. The government⁴³ and some NGOs have used CBD as a vehicle for service delivery in Rajasthan. Managing a CBD program however calls for intensive supervision and certain additional resources, without which it might become ineffective. This article examines some of these issues in the light of ARTH’s own experience in Kumbhalgarh, Rajasthan.

14.2 Design of the CBED programme

When ARTH’s work started in Kumbhalgarh in 1997, a baseline survey revealed high unmet need for contraception and low coverage of maternal care. We therefore decided to complement our clinic-based services with a community-based education and distribution (CBED) program.

Selection of volunteers

We first thought of using existing village level volunteers. We contacted literacy volunteers but they turned out to be under-motivated and inactive. Anganwadi workers of the ICDS scheme did not take interest in what appeared to be “additional” work that was not part of their regular job, while non-formal education (NFE) volunteers held evening classes for 6 to 14 year old children, not women. We therefore decided to identify women volunteers afresh for the project.

⁴² Unmet need for spacing and limiting were 11% and 9% as per NFHS (Rajasthan) 1992-3. In 1999, the unmet need was 9% each for both spacing and limiting (NFHS-2)

⁴³ through its Jan Mangal program for contraceptive distribution

Our field workers visited hamlets of each village, discussing objectives of the program. They inquired about young, married, women of the tribal community who would be willing to volunteer for this work. They identified bold and outgoing persons from among those who came forward. There were no other conditions for a woman to be short-listed as volunteer. Local panchayat members were requested to recommend names, but few took interest. All short listed candidates were invited to one or two orientation-training sessions where their interest and aptitude were assessed. A total of 18 women from the 10 project villages were eventually selected -- all happened to be illiterate and lived in scattered hamlets of their villages. Later in the program, the two male field workers additionally identified some young men as hamlet based "link persons" who were meant to help with men's education and distribution of condoms.

The CBED agents

The program has three categories of CBED agents:

1. Village based women volunteers: Eighteen tribal women, each responsible for about 700 persons, receive a small honorarium. They have following roles:
 - To educate women and adolescent girls in the area individually or in small groups, on issues such as teenage pregnancy, contraception, maternal care, RTIs, STDs, menstrual problems, male responsibility etc.
 - To distribute oral pills, condoms, ORS packets, iron tablets, disposable delivery kits & gloves
 - To refer and accompany women with health needs to the ARTH clinic.
2. Two male full-time paid workers (high school pass), each responsible for a population of about 6000.
3. About forty young male link persons loosely associated with the program, trained locally through field workers, and given responsibility for stocking and distributing condoms within their hamlet.

The following account focuses on the role of women volunteers, supported by field workers.

Training

Women volunteers assembled at the RCH centre for cyclical training and review meetings, which initially was held on fortnightly basis, and later on monthly basis. The reproductive health topics included structure of reproductive organs, the role and methods of contraception, maternal health, menstrual hygiene, prevention of STDs and HIV transmission, abortion, etc. Child health topics included nutrition, diarrhoea and immunisation. Social and gender dimensions of RCH entered into each session – they focussed in the main on the gender division of work, women's autonomy and choice, reproductive decision making and rights, the role of men, privacy and confidentiality, and pregnancy out of wedlock.

Volunteers were advised to extend help to vulnerable groups such as unmarried and married adolescents, women living away from their husbands, and widows. They were encouraged to meet adolescents separately, and if this was not feasible, invite them to participate in educational sessions with adult women. They were trained to offer women all available contraceptive options, inform them about possible adverse reactions and help them choose a method. Women's right to switch or discontinue contraception was emphasized. Volunteers learnt of the importance of maintaining confidentiality, especially with women needing

contraception or abortion services, since women might use these services without their families' or husbands' knowledge.

Training methods included transparency presentations, group discussions, sharing of experiences, role-play and body mapping exercises. In addition, a female social worker provided them practical field training on conducting group meetings and using communication material. On observing group educational sessions too, we initially found that volunteers carried out one-way communication, and did not consider listening to women's views and perceptions as important. We oriented volunteers about interpersonal communication skills, emphasising active listening.

The volunteer's kit

Each woman volunteer received a cloth bag (*jhola*) containing a set of three pictorial books⁴⁴ for educating women on reproductive health, a three dimensional rubber model of the uterus, a sample Copper-T and some illustrated easy-to-read pamphlets for distribution. They also regularly received the following supplies:

- i. Oral contraceptive pills and condoms
- ii. Iron folic acid tablets for pregnant women
- iii. "Mamta" Disposable delivery kits
- iv. Pairs of single-use disposable gloves to be used along with a delivery kit by the birth attendant
- v. ORS packets for managing childhood diarrhoea

All these supplies were procured from the government and distributed free, except for gloves that the programme purchased and volunteers sold to pregnant women for Rs 3 per pair⁴⁵.

Referral links

In the course of educational sessions in the community, volunteers encountered many women with reproductive health needs like unwanted pregnancy, missed periods, those who wanted to space or limit, childlessness or other gynaecological problems. Many of these women had no prior experience of seeking modern health care and were apprehensive about doing so. Volunteers helped these women to access services from the RCH clinic by informing them of available services and accompanying them whenever required.

Supervision

A female health supervisor (postgraduate social worker) supervised volunteers on field and reviewed their performance at fortnightly or monthly meetings. She attended group educational sessions conducted by volunteers and guided them. She also met most oral pill clients and a sample of recently delivered women to assess the volunteers' role, using a checklist. An intricate system of recording and reporting contraceptive users had to be developed, given that the volunteers were illiterate. After some months, we introduced a system for verification of oral pill users, whereby all new oral pill acceptors were first contacted within two months and then later on a periodic basis. On the first visit, the supervisor administered a checklist to confirm client's eligibility to take oral pills. Meanwhile, oral pill users with side effects received priority during field visits by the supervisor and nurse-

⁴⁴ the process of developing these books using formative research and field testing has been described in another section

⁴⁵ this price included a margin of Re 1 for the volunteer

midwives. Some women were using contraceptives discreetly without their families' or neighbours, the supervisor had to meet women along with volunteer and in private for verification of pill users.

Performance monitoring

The only monthly "target" given to volunteers was to conduct at least 6 small group educational sessions for women, in the hamlets allotted to them. They were not given any contraceptive targets. After some months we realised that some of the brighter volunteers had become very active in their work while about an equal number appeared to be relatively disinterested, inactive and had few clients for any product. We based our approach to them on the premise that in a community where services are similarly inaccessible, poor distribution of health products by some volunteers was evidence of inadequate effort or skills on their part. We used the following indicators to monitor performance (table 14.1).

Table 14.1: Indicators of volunteer performance	
Indicator	Means of assessment
Number of community educational sessions and participants	Records compiled at review meetings
Quality of group education sessions in the village	Field observation of education sessions
Number of new and continuing oral pill and condom users	Records compiled at review meetings
Number of ORS packets, IFA tablets and delivery kits distributed	
Number of referrals for RH problems including antenatal care, delivery, MR/MTP, Copper-T insertion, etc	Clinic records

We compared the performance of different volunteers during review meetings, to encourage slower volunteers to improve without having to give any distribution quotas. Two volunteers who were persistently inactive and indulged in misreporting had to be discontinued after their performance failed to improve despite efforts at correction. This combination of encouragement, field based support and firmness yielded mixed results. After one and half years, we therefore experimented with a performance based remuneration system for CBED volunteers.

Remuneration

Volunteers initially received a fixed honorarium per month, in addition to which they received per diem for attending review meetings. After a year and half the fixed honorarium was reduced, and in its place service charges were introduced (table 14.2).

Table 14.2: Schedule of service charges for volunteers		
Service	Means of verification	Service charge (Rs)
Accompanying a woman for a single antenatal care visit to the ARTH RCH centre or field clinic ⁴⁶	RCH centre and field clinic records	5
Facilitating a domiciliary postnatal visit by the nurse-midwife	Field clinic records	5
Accompanying a woman for institutional delivery to RCH centre, Kuncholi	RCH centre records	25
Emergency obstetric referral and accompaniment	RCH centre and midwives' delivery records	25
Accompanying a woman for Copper-T insertion, MTP or other RH need to RCH centre	RCH centre records	10 + bus fare
3 months continuous oral pill use by a client	Records compiled at review meetings, field verification	5

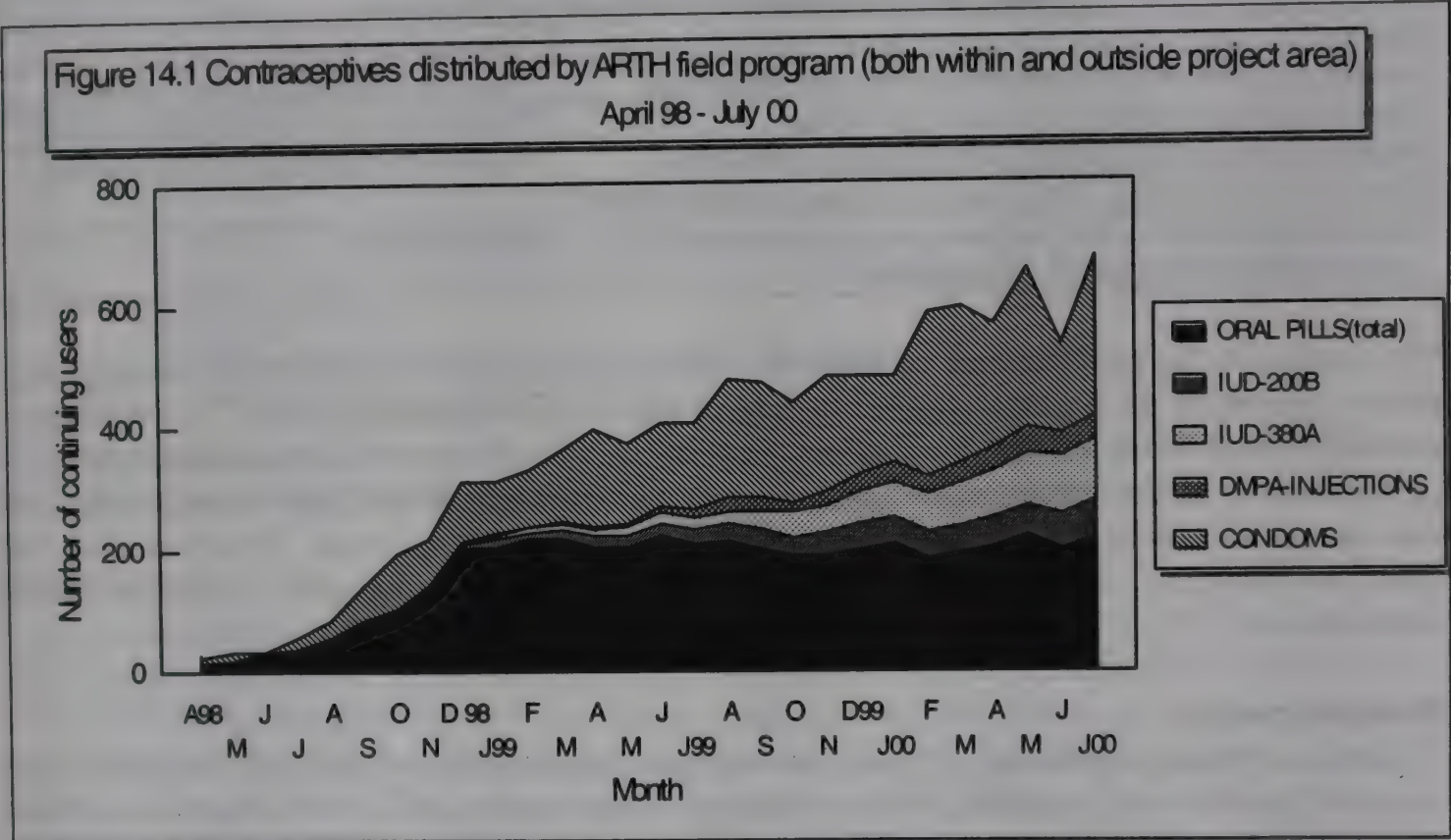
⁴⁶ monthly nurse-midwife run field clinics had been introduced in each village



These charges were paid to the volunteer on the spot or during review meetings, for the time and effort invested by them to promote the utilisation of services by women. Some of the charges like continuous oral pill use required field verification by a supervisor.

14.3 Results

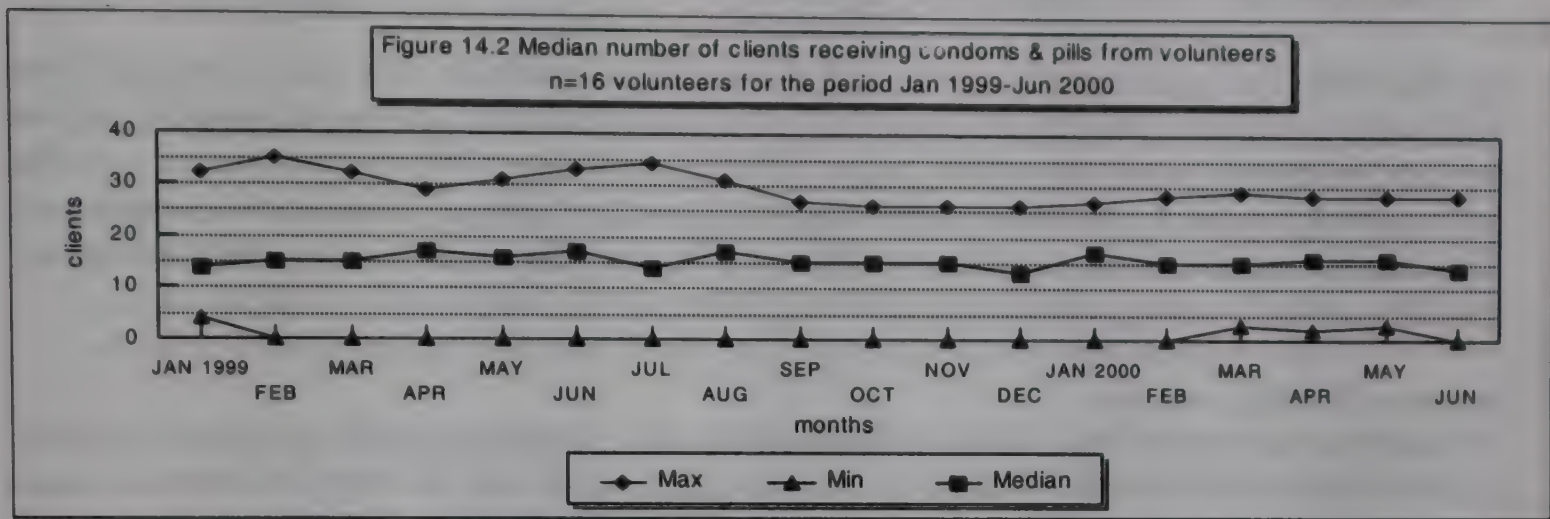
Figure 14.1 depicts contraceptives distributed or provided by ARTH's field programme over the period April 1998 to July 2000. The figure includes only continuing users of individual methods. While CBD agents (female volunteers and male health workers) distributed oral pills and condoms, Copper-Ts and DMPA were provided at the RCH clinic after counselling and screening. Clinic clients included those who had been referred by CBD agents as well as those



who had come on their own. It clearly shows that number of continuing users of pills went up steadily during the initial phase, after which it stabilised due to reduced motivation among some volunteers and a rise in the number of women who discontinued. The number of condom users reflects distribution rather than actual use – this being difficult to verify. The number of users of long-term contraception has been steadily increased, particularly for Copper-T 380A which has become popular in the area as a reversible alternative to women wishing to limit births.

Number of contraceptive users

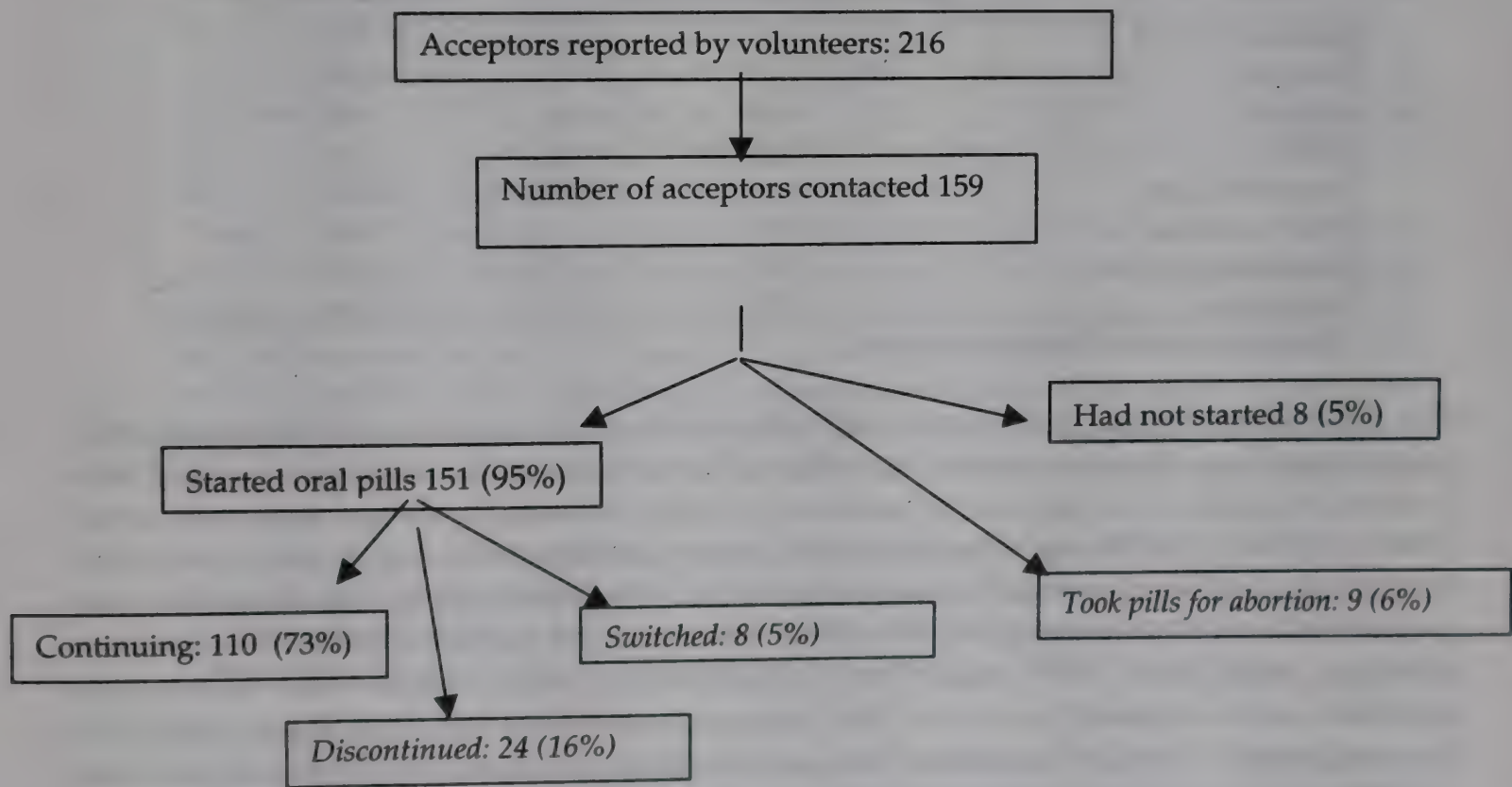
A review of the monthly self-reports revealed that the volunteers distributed condoms and oral pills to a median of 13-16 clients per month. This figure however hides wide variations – some of the slower volunteers would not have a single client for a few months at a stretch while the more active ones had as many as 35 clients per month, making it difficult to verify on field. As against these monthly service records, survey data in 2000 revealed a contraceptive prevalence rate of 22% comprising about 49% by sterilisation and 51% by non-



terminal methods, a ratio that is markedly different from NFHS figures.

Field verification

Given in the flow chart, is the result of field verification of 216 self reported oral pill clients by a supervisor, about one and half years after the start of the CBED program.



Major findings were as follows:

- Of 159 verified oral pill acceptors, 81% were continuing use of the same or another contraceptive. Hence the coverage was less than that reported by volunteers during monthly meetings, by a factor of almost 20%

- A few reported acceptors had not started using pills because of confusion about when exactly to start – many of these had lactation amenorrhea
- Volunteers gave pills to a few women who had missed a period, so as to help them abort – this was despite their being trained not to use pills for this purpose.
- Most of the 16% discontinuers did so either because of side effects, in order to conceive again or due to opposition from the husband.
- Eleven per cent of women used oral pills secretly, without their husband’s knowledge.

In clinic also, we encountered women with unwanted pregnancies who had taken pills from volunteers for missed periods, and thus delayed seeking abortions. During all monthly review sessions, volunteers were trained not to give pills to such women. We also introduced a system for supervision whereby all new oral pill acceptors were first contacted within two months and then later on a periodic basis. Whenever misreporting was discovered, it was discussed during monthly review meetings so as to avoid its repetition.

Impact of CBED program

A survey at the end of two years of intervention has revealed that 48 per cent currently married women had met the volunteer at least once, and a total of 14.3 per cent had taken some help from the volunteer. The help was taken mainly for family planning or to be accompanied to RCH centre for health problems.

Table 14.3: Contraceptive use among women by contact with volunteer		
Contraceptive	Women* who came in contact with volunteer at least once (n=207)	Women* not in contact with volunteer (n=223)
Condom	1.0	2.7
Oral pill	11.1	1.8
Copper-T	6.8	0.4
DMPA	0.5	0.0
Fem sterilization	11.6	13.5
Male sterilization	0.0	0.4
Traditional methods	1.0	1.8
Any method	31.9	20.6

* Excludes pregnant and menopausal women

The above data reveals that contact with the volunteer was associated with significantly greater overall use of contraceptives. In addition, there was a significant shift in favour of non-terminal methods at the expense of sterilisation among women in contact with a volunteer (OR=3.28, RR 1.83). We also found that within the tribal subgroup, contact with a volunteer resulted in a significant increase in contraceptive use. We probed this by examining the caste groups contacted by volunteers. We found that volunteers had contacted 62% of women from scheduled tribes, and 35% women from scheduled and other castes. The difference is significant and is explained by the act that contact among village women is deeply influenced by caste groups. It was not surprising that our volunteers who were predominantly of tribal origin, made the greatest impact on tribal women.

As a result of our CBED program, the use of other RH products (gloves, disposable delivery kit) also increased significantly, when compared to baseline figures (table 14.4).

Table 14.4: Use of RH products in a CBED program area

CBD product	Baseline coverage (Oct 1997-Feb 98)	End line coverage (Apr-May 2000)
IFA tablets in pregnancy	33%	52%
Use of disposable delivery kit for home delivery	1.8%	61%
Use of gloves during delivery for home delivery	0	30%
Modern contraceptive use among couples with 1-2 children	8%	18%
Condom use reported by men	not recorded	7%

14.4 Summing up...

Community based distribution is an effective way to enhance access to contraception and other RH services in a community. Other programs⁴⁷ have also found that CBD with referral links can increase contraceptive use by fulfilling a latent demand for services. However, while managing a CBD program, we have learnt some lessons that have been discussed below.

1. *Motivation:* A CBED program's success depends greatly on what motivates its agents -- whereas it would be ideal for village women to see their work as honorary community service, women in poor communities tend to consider themselves as part-time workers deserving a wage. Their husbands and fathers-in-law too, expect them to earn a wage in lieu of their absence from the home for training or work. We acknowledge that it might be feasible to mobilize women (or men) around a common issue or a time-bound event, if it concerns their direct survival. However, community based education and distribution for health is an ongoing activity. Continuity of services is as important as the number of new clients enrolled, hence CBED agents should be able to commit a regular amount of time to their work and remain loyal to their role. We have found that sustaining this kind of commitment requires nominal payment to CBED agents. A study in Tanzania⁴⁸ has compared three CBD programmes in terms of the cost per agent visit. It concludes that performance can be improved by strategically increasing the remuneration of agents, along with balanced spending on training and supervision.
2. *Training of CBD agents:* Low rural or tribal female literacy in Rajasthan means that most female volunteers are illiterate. Training these women to become change agents is a major challenge. A CBED program needs to invest considerable resources in regular training and performance review of volunteers – for this purpose, a trainer's communication skills are as important as her technical skills. Classroom training needs regular reinforcement on field. We have found that most available interactive communication materials assume that participants are literate. Hence, suitable educational materials may need to be developed for illiterate volunteers.
3. The *work ethic* of village volunteers may not be very different from that of field level government or private employees. Excess reliance on self-reports of performance without regular field supervision can encourage misreporting among a significant fraction of CBED agents. On the other hand, quality of care is directly linked to continuing

⁴⁷ Phillips J, Stinson W, et al. The demographic impact of the Family Planning – Health Services Project in Matlab, Bangladesh. In: Family Planning Operations Research - A group of readings. Population Council, New York, 1998

⁴⁸ Janowitz B, Chege J, et al. Community Based Distribution in Tanzania: Costs and Impacts of Alternative Strategies to improve Worker Performance. Intl Fam Plg Perspectives 2000; 26 (4): 158-160

- contraceptive supply and use. Hence a supervisor must help volunteers to track existing clients and meet their changing needs. *We conclude that a CBED program can help ensure women's reproductive rights only if it makes provisions for sensitive and effective field supervision.*
4. The *technical limitations of CBED agents* can be greatly compensated by a skilled field worker or supervisor. For example, providing oral pills requires a screening checklist to be administered to new clients and side effects to be managed. Since these might be beyond the capability of illiterate village volunteers, a supervisor or nurse-midwife must also directly meet clients as necessary.
 5. *Maintaining supplies:* Relying on supplies from the government requires that the CBED program or the organization running it, maintains good rapport with local government officials, procures supplies and submits the necessary reports. Once in a while, supplies might run out, or government officials might make excessive reporting demands that the program cannot meet – for example, asking for details of all clients. Managers of the program need to reach agreement with government officials on the information that will be shared. Breaks in supply impair the effectiveness of the program – our own experience with irregular and inadequate supplies of ORS has meant that CBED for childhood diarrhoea care has not been effective.
 6. *Referral system:* Our volunteers were able to refer women wanting long-term contraceptive methods or treatment for other RH problems to the RCH centre, where they were accorded due respect and priority. The RCH centre thereby backed up the village volunteer and increased her credibility in the eyes of the community. We conclude that a CBED program greatly benefits from arrangements for referral.

Communicating Reproductive Health

15.1 Background

ARTH's Kumbhalgarh Health Project aimed to bring about a change in the health seeking behaviour of rural women through a combination of clinical services and communication efforts in the community. Health education was intended to be carried out primarily through group sessions in villages. To facilitate discussion on reproductive health (RH) issues in small groups, we utilised village based women volunteers as health educators. Most of these women were either illiterate or only knew how to write their names. The initial experience of training such women to act as health educators was frustrating - they would forget issues to be raised and mix up related messages. As planners of an educational programme, we wondered as to how best to initiate discussions among women on sensitive reproductive health issues.

We went through available printed communication material on reproductive health. We found that most of it was wordy and heavy on technical content, and was thus better suited to literate audiences. We found that available materials often did not address traditional beliefs and existing practices of women in our area, although there were a few notable exceptions that we readily adopted for our use. Messages also did not address the role of men in RH. Illiterate audiences did not easily understand the available pictorial material for reasons that included the following:

- Several symbols that we often use to produce pictorial material were interpreted in a different manner by illiterate persons. For example, a cross indicating "wrong" was misunderstood as two sticks.
- Abstract pictures showing only parts of the human body were not understood. For example, pictures of the waist and hands of a woman wearing a menstrual pad or of a Copper-T lying inside the uterus were not understood.

At this point, we decided that it was necessary for our volunteers to be equipped with simple, culturally appropriate pictorial material that could be used to share information and trigger discussion on RH behaviour.

15.2 The development process

A team of 3 persons -- a gynaecologist, a public health professional and a designer conceptualised and implemented the following process.

i. Target group research

We selected the following subject areas:

- Antenatal period, delivery & postnatal care
- Wanted and unwanted pregnancy, contraception
- Menstrual hygiene and disorders
- Reproductive tract infections & STDs

Findings of a quantitative baseline survey conducted by ARTH in 1997 were reviewed. To fill gaps in our understanding of health needs of women in the project area, and to understand their attitudes, perceptions, sources of information and obstacles to behaviour change, we decided to carry out a qualitative assessment. Lists of questions on each topic were developed – these formed the basis of our discussions. The study was carried out between March and June 1998 using body mapping exercises and focus group discussions.

ii. Using research findings: defining objectives and creating messages

- a. *Analysing research findings*: Information was organised according to topic, it was analysed as per the research questions and a report was prepared.
- b. *Setting specific objectives for behaviour change*: For each topic realistic measurable communication objectives were defined, based on the data from quantitative survey and the obstacles to change.
- c. *Deciding on content of messages*: Messages were designed in such a way that they inform target groups about the actions they can take to improve their health, and why they should take these actions.

iii. Designing the material

For developing pictures and messages, following facts were kept in mind:

- a. Messages woven into a story were better understood and generated more interest than abstract ideas. They also give the health communicator an option to innovate and build upon the knowledge of the audience.
- b. Illiterate persons understand symbols differently.
- c. Women illustrate various concepts and events like menses, marriage, pregnancy, illness and maternal death in their own way, and by using distinct visual cues. We learnt of these through group discussions wherein women were asked to draw marriage, pregnancy, etc.
- d. People's perceptions and the visual literacy context vary: some objects, like the *chulha* or fireplace, are drawn in the aerial view while others are drawn in the side view.
- e. Scale and proportions are not of any specific importance. To a rural audience, a human figure drawn as big as a house causes no visual discomfort.
- f. The use of flaps to show reproductive organs: diagrams of a woman showing her reproductive organs, pregnant uterus etc. are less acceptable when it appears like a naked woman. Women find them more acceptable as clothed pictures with flaps.
- g. One message and one concept on one page: More than one visual on one page confuses illiterate persons, especially if they depict different time periods. For example, a series of visuals on a single page showing steps for wearing a condom or stages in the menstrual cycle are not understood.

iv. Pre-testing and revision

The first draft of each booklet was pre-tested with volunteers, TBAs and village women by the development team, using group discussions. Messages as well as the pictures were pre-tested. Each visual was shown to the group using an overhead projector and participants were allowed to speak freely to describe the message in their own words. After taking feedback they were informed as to what the visual intended to convey, and their suggestions were taken on how to improve it.

The pre-test exercise assessed whether women understood what the text and pictures were attempting to convey, whether they thought the issues being addressed were important to them, and whether the recommended actions were relevant and acceptable to them. For example, a visual showing a parturient woman sitting outside in the sun was strongly resented because of the deeply rooted belief that a woman's body is very vulnerable to evil influences during the immediate postnatal period and that she therefore should not go outside the house. This picture was therefore removed. On the other hand, a picture of a husband carrying water and firewood to help reduce his pregnant wife's workload triggered laughter, but was felt by women to be acceptable and even possible. The first draft was revised on the basis of pre-test. Each revised story was shown to two different groups and was modified again. For pre-testing the second draft, volunteers used the material under observation, to educate young women in villages. Our aim was to ensure that at least 70 per cent of the target group was able to understand the material correctly.

v. Presentation and mode of use

The pre-test revealed that both volunteers and women prefer to see and point to pictures placed on the floor, hence the idea of having a standing flip book was dropped. We decided to improvise whereby the book could be placed flat on the ground by the communicator, with the text facing her. We called this improvisation a "flat book". The books have illustrations and messages depicting stories with text in the form of simple and short sentences in Hindi, using a large font. A few open-ended questions related to key messages have been placed in boxes below the text, with answers given in a later section. The communicator is expected to raise these questions to trigger a discussion during the educational session. While illiterate educators learn the story behind the pictures, neo-literates can read the simple text given with the pictures. Literate educators and trainers may additionally refer to the reference section towards the end of the book.

The educational series developed has been called "Yauvan ki Samajh" (Understanding Reproductive Life). It has three pictorial books as follows:

1. *Mirki ki Kahani* (Mirki's story): This book covers care during pregnancy, delivery, the postpartum period, danger signals during these periods and related maternal complications.
2. *Kalu aur Khemli ki Kahani* (The story of Kalu and Khemli): This book covers family planning options at different stages of life -- in particular the social circumstances inhibiting contraceptive use by teenagers and the consequences of teenage or poorly timed pregnancies.
3. *Babulal Shahar Gaya* (Babulal went to the city): The third book deals with situations leading to reproductive tract infections, sexually transmitted disease and HIV/AIDS, and how women can deal with them. It also deals with a woman's options when faced with unwanted pregnancy and the consequences of clandestine abortions.

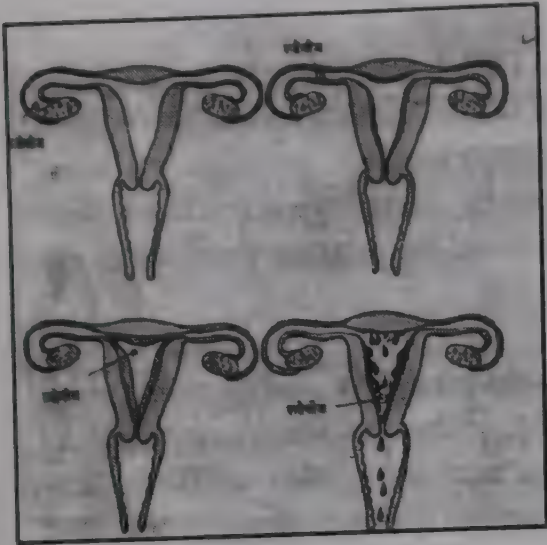


Figure I: A series of visuals on one page were not understood

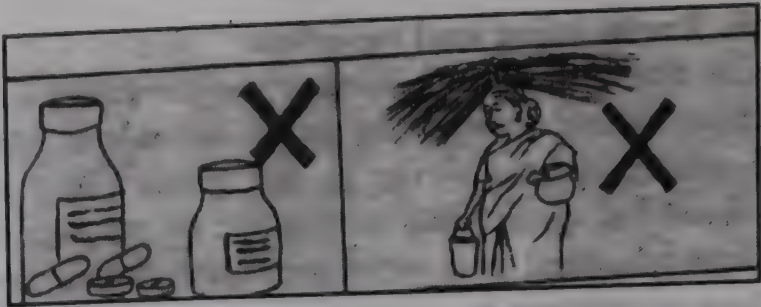


Figure II: Pictures with a cross indicating "wrong" were understood as 2 sticks

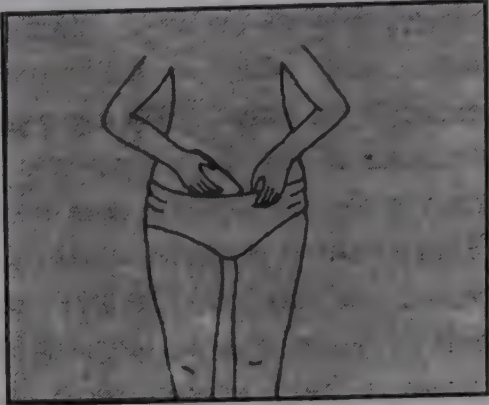


Figure III: Pictures showing parts of the body were not understood

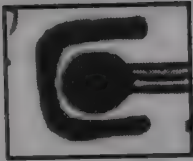


Figure IV: A chulha (fireplace) drawn in aerial view



Figure V: A cot drawn in aerial view

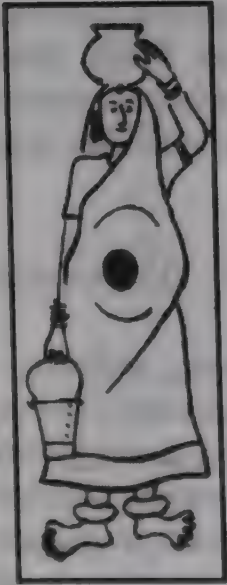


Figure VII: Pregnancy is depicted as a dark black dot in a woman's lower abdomen symbolising the fetus

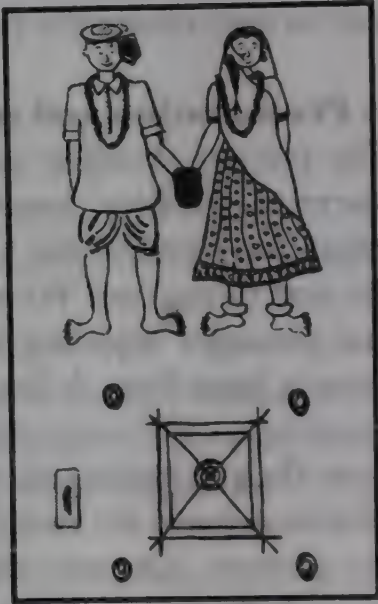


Figure VI: Marriage is symbolised by hands of couple tied together and the ceremonial square

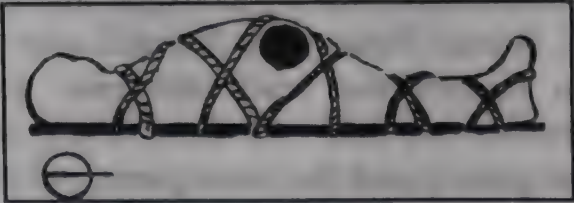


Figure VIII: Death is symbolised by a lamp near the head (the picture depicts a maternal death)

We trained our women volunteers to use the books to trigger discussion about existing beliefs and practices among small groups of women and adolescents. Women “learn through pictures” and remember key messages. We found that illiterate educators are able to use the material quite effectively among different target audiences. Encouraged by the initial experience, male extension workers were subsequently trained to use the same books among young husbands and fathers.

15.3 Summing up...

In communities characterised by high levels of female illiteracy and low exposure to mass media, communicating messages on reproductive health is a greater challenge. Abstract pictures drawn by artists based on an urban visual perspective may not communicate the message, since rural illiterate persons interpret pictures differently. On the other hand, the use of printed materials to supplement verbal communication lends a lot of credibility to the rural educator, since it projects her as being more knowledgeable in eyes of her kin.

It is therefore important that the communication material for illiterate rural persons takes into account their visual literacy, as well as existing beliefs, practices and appropriateness of messages. Reproductive health messages need to recognise the context of rural women’s lives -- specifically the social and gender hierarchies that govern them. Health educators need training in two-way communication using such material, so that they may raise questions about existing customs practices, and discuss options for improving health care.

Family Life Education for Adolescent Boys

16.1 Background

Women in rural Rajasthan have little autonomy in taking decisions that directly affect their reproductive and sexual health. These include critical decisions that concern whether and when to get married (and to whom), when to start childbearing, the number and timing of children, how to deal with unwanted pregnancy, appropriate care for a wanted pregnancy and how to prevent and treat reproductive problems including sexually transmitted disease. Women's inability to take decisions in reproductive health matters is part of a general lack of autonomy and control over resources. Our own experience suggests that after availability of services, lack of personal autonomy is the single most important determinant of women's reproductive health in areas like Kumbhalgarh.

Efforts to enable women to utilise reproductive health services must therefore go beyond making those services available – they must work towards making the social and family norms that govern reproductive decision-making less patriarchal. It would be essential to involve men in this process. The values and attitudes of adolescent boys or younger men are considered to be more amenable to change. Being much younger than men with established families, adolescent boys also have more time and opportunity to apply these changes to their own lives. We therefore decided to test one approach to changing values and attitudes among adolescent boys, by piloting an educational camp for them in Kumbhalgarh. We realised that to be successful not only must such an intervention comprise actions for educating adolescent boys, but that it must also be able to measure change in reproductive decision-making over extended periods of time. Whereas several approaches for RH education for boys have been attempted in other parts of the country, there is far less understanding or experience, on how to track its effects over the years. The scope of our work in Kumbhalgarh too, was limited to testing the educational approach. This experience has been discussed in the sections below. We carried out a needs assessment followed by three educational camps such that each successive step built on lessons learnt from the preceding ones.

16.2 Needs assessment

We conducted a qualitative study of 30 adolescent boys (equally divided among SC-ST and other caste groups) and their parents, especially fathers, in two villages (table 16.1 for demographic information). One village where project activities had been implemented since 2 years was located about a kilometre off the main road. The other village lay 5 km off the main road; project activities had not been implemented there at the time of study. Two young male investigators-cum-trainers (postgraduates in education and law) carried out the qualitative study of adolescent boys together, with one person acting as interviewer and the other as

recorder. The younger person interviewed adolescent boys while the older person interviewed parents. Interviews were carried out after verbal consent and after ensuring adequate privacy.

Table 16.1 Profile of study villages

Village >>>	"K" (in Kumbhalgarh tehsil)	"G" (in Gogunda tehsil)
Total population (year 2000 estimates)	728	1467
Proportion belonging to scheduled tribes (%)	41	61
Literacy (%)	21	10
Female literacy (%)	8.3	1.4
Hamlets	9	13

Salient findings from the needs assessment

Educational attainment was low – boys dropped out of school during adolescence to take up work on farms, in marble mines of the region or by migrating to cities like Surat and Mumbai to be employed as casual labour. Many boys were dissatisfied with the family occupation and wished to do something else. Most would have liked to get a government job as teacher, peon, police constable or patwari (land revenue official) or start a business or shop of their own, but did not know how to go about it. Most boys were not aware as to how to use post-offices, banks or how to travel in a train. They also did not know how to get the benefit of government employment and loan schemes.

Half the boys in the study were married but most had not started cohabiting. Parents usually decided about marriage, and the consent of neither the boy nor girl was sought. Most boys would have liked to marry girls who had received education, but landed up marrying illiterate girls. They would have liked their wives undertake wage labour, but preferred to control their income. Most boys were comfortable about the unequal distribution of work between boys and girls, as represented by the domestic duties of brothers and sisters. Even those who agreed that brothers and sisters should share the work equally nevertheless feel shy about doing jobs that were "meant for women".

Boys learnt about sex from friends, books, or by surreptitiously watching someone having sex in the fields. Most parents did not talk to their children about sex, but some had warned their sons not to engage in any "wrong activity" with girls, when (for example) they took the animals out for grazing. Parents felt that if an unmarried girl were to become pregnant due to their son, their family's honour would be at stake. Several boys had experience of sexual contact before marriage or between marriage and the start of cohabitation. By and large, the boy took the initiative. The boy initially made gestures or signals to the girl, and if she responded positively, they got to talk. Boys used small gifts such as a handkerchief, hair clip, ring, sweets, *gutkha* (chewing tobacco) or money. Girls were apparently more attracted towards boys who had returned from cities because they seemed to have a better lifestyle. Most boys were not consciously aware that girls can become pregnant from sexual contact – some of them thought that even if the girl were to become pregnant, her pregnancy could be conveniently aborted by using tablets or decoctions. Even married adolescents did not use any contraception, mainly due to lack of knowledge, poor access to methods and shyness in beginning to use them.

Boys spent their free time playing ball games, cricket, *gilli dunda* or *sitolia* (both local, outdoor games) or with glass marbles. A few liked to sing songs, play the *dholak* (drum), play cards or dance. Those who had migrated to cities liked to read newspapers or watch TV, but these by

and large were not available in these villages. About half the boys started on some kind of addictive substance during adolescence. The most common addictions included smoking bidis (Indian cigars) or chewing *gutkha* (tobacco and betel cud). Alcohol was not consumed regularly. Most boys were aware of the harmful effects of these substances.

16.3 Development of an educational curriculum and module

Based on findings of the needs assessment we developed a curriculum for carrying out an educational camp for adolescent boys with the following objectives:

- ❖ To improve awareness of reproductive health issues and inculcate a positive attitude towards responsible sexual behaviour and parenthood
- ❖ To increase sensitivity about gender issues
- ❖ To help develop some practical life skills and self confidence

The curriculum covered issues related to education, career, gender roles, adolescent development, reproductive health and substance abuse. It was revised after each educational camp. The outline of sessions has been given in the box overleaf, along with the duration and proportion of time allotted to each.

16.4 Educational camps for adolescent boys

We conducted three 3-day residential camps in March, June, and July 2000. Participants were invited personally by facilitators who visited their homes and spoke to family members about the nature of the camp. Local panchayat leaders were also informed about objectives and sessions of the camp so as to elicit their support and to allay any apprehensions regarding the nature of the activity. Camps were carried out in the premises of the RCH centre clinic, by making use of the training room and hiring space for cooking and catering.

Communication methods employed for each camp were drawn from the realm of training pedagogy and were participatory. They included group-work, role-play, demonstrations, lecture-discussions, brainstorming and a micro-lab. Training aids included transparencies, handouts, models and samples of health products like contraceptives. Boys were also allotted housekeeping responsibilities during the course. These have been detailed separately within the training module.

A total of 50 adolescent boys (ages 11-17) participated. On two occasions boys' fathers dropped in satisfy themselves about the nature of the activity – they attended the course for an hour or two before moving on.

Curriculum for educational camp for adolescent boys

1. Introduction, warm up and participatory exercises (90 minutes, 7%)
2. Education (120 minutes, 9%)
 - a. Merits of acquiring an education
 - b. Educational attainment among girls - barriers
 - c. Role of adolescent boys in promoting education of girls
3. Career options and labour laws (210 minutes, 15%)
 - a. Vocational guidance
 - b. Government supported self-employment programmes
 - c. Overview of labour laws
4. Expenditure and savings (75 minutes, 6%)
 - a. Managing an income, relevance of savings
 - b. Some avenues for saving
5. Postal services (90 minutes, 7%)
 - a. Practical information on postal services
 - b. Post-office savings schemes
6. Changes during adolescence (210 minutes, 15%)
 - a. Reproductive anatomy and physiology
 - b. Anxieties and misconceptions regarding adolescent growth
 - c. Psychological development
 - d. Social values
7. Sexually transmitted diseases including HIV/AIDS (120 minutes, 9%)
 - a. STDs and HIV/AIDS: Causes, clinical features, prevention and treatment issues
 - b. Behaviour change for safe sex
 - c. Social dimensions of STDs
8. Family planning (240 minutes, 18%)
 - a. Teenage pregnancy: dangers and preventive measures
 - b. Contraceptive options; how to use different methods
 - c. Male role in contraceptive usage
9. Gender roles (90 minutes, 7%)
 - a. Gender Division of work
 - b. Women's autonomy
 - c. Domestic violence
 - d. Role of adolescent boys in reducing gender inequality
10. Addictions and peer influences (90 minutes, 7%)
 - a. Effects of tobacco, alcohol and other addictive substances
 - b. Dealing with peer pressure
 - c. Friendship, family and social responsibility

16.5 Summing up...

The experience of piloting an educational camp for adolescent boys in an interior tribal area of Rajasthan provided us with some insights, apart from resulting in a field-tested training module.

- i. Whereas the camps represented an attempt to stimulate changes in attitude and behaviour among adolescent boys, the effects are expected to be transient, unless boys are able to apply the new learning to their lives in a consistent manner. This might require ongoing support by way of networking or follow up and review meetings.
- ii. Changes in personal, social and reproductive health behaviour among boys would take years to manifest. The challenge is to devise ways to measure the medium and long-term impact of family life education of adolescents, so that the interventions may be modified based on evaluation results.
- iii. Adolescence education in feudal-patriarchal communities must take the views of adults, in particular parents, into consideration. Needs assessment, intervention design and the handling of social issues must involve them. One way to work for change without alienating large sections of the adult community is to challenge current values and beliefs in small steps at a time. Determining the limits that one can stretch at each step, is a matter of local judgement. Addressing some educational efforts directly towards parents could be one way of reducing their resistance.
- iv. As an area of focus, the pilot camps suggest that adolescent boys of the area are negatively disposed towards even practical gender needs like girls' education, or rest, recreation and sports on their part. Given the low levels of exposure to influences of change among boys of the area, one needs to systematically build in them an understanding of the link between gender bias, unequal family and social relationships, and reproductive health.
- v. The process of holding individual camps also generated learning about methodological issues. Participatory exercises proved vital in helping to open up shy adolescent boys, especially the younger ones. Body mapping exercises were immensely popular since boys could relate directly to the process and results that they generated. Lastly, the anonymous question box was very successful in eliciting questions on sensitive topics without revealing the questioner's identity. However, for obvious reasons illiterate boys were unable to use it effectively.

Managing Infertility

17.1 The intervention for childless women

Beginning as a comprehensive reproductive health service that focussed more on maternal care, contraception and abortion, the health programme in Kumbhalgarh block had to respond to the problem of infertility in the area. We reviewed our interventions till that point and found that there were several ways in which a RH programme can help to prevent infertility. These have been summarised below.

Preventive measures

In the ARTH field area, we had undertaken certain measures to prevent infertility. All of these were measures to prevent reproductive tract infections (RTIs) by the sexual or non-sexual route, since these contribute to a significant proportion of infertility by causing tubal block (in females) and vas deferens block (in males).

Actions contributing to infertility prevention in ARTH field area

- STD prevention
 - Condom promotion and distribution
 - Community education on STD prevention, responsible sexual behaviour, early treatment
- Reducing unhygienic delivery
 - Domiciliary and institutional delivery by midwives
 - TBA training
 - Provision of disposable delivery kits and gloves to birth attendants
- Minimising unsafe abortion
 - Contraception for preventing unwanted pregnancies
 - Menstrual regulation
 - Medical termination of pregnancy (1st trimester)
- Avoiding unclean pelvic procedures
 - Quality IUD insertion after screening
 - Strict asepsis during pelvic examination, IUD insertion, D&C, etc
- Case management of RTI/STD
- Community education on behaviour, clean delivery, safe abortion and avoidance of premature and unnecessary investigations for childlessness

Service package

The biweekly RH clinic run by a gynaecologist has responded to the needs of women and couples seeking treatment for infertility with the services given below. The package (see box below) reflects the limitations of a field clinic that lacks sophisticated laboratory facilities in dealing with infertility, and consequently depends on effective referral linkage with laboratories and hospitals in Udaipur (52 km away). Udaipur is a divisional town of southern Rajasthan that has a medical college and several private practitioners. In view of the high opportunity costs incurred by clients, ARTH has attempted to minimise their visits to Udaipur by transporting tissue and blood samples after collection in the field clinic and collecting test reports for the same.

Our experience in implementing this package has shown that patients are willing to undergo diagnostic tests and treatment if they could be carried out locally. Very few of those advised referral ultimately reached the city for diagnostic tests. On inquiring from such patients later we learnt that they were reluctant to go to the city because of lack of familiarity with the city, high costs for expensive radiological tests, or the fear of being cheated. In the city, patients can get cheated- either by touts of clinics who lure them to go elsewhere, or occasionally by the laboratory staff whereby patients might be charged more than the standard cost for that test. It has been even more difficult to carry out therapeutic procedures in the city (e.g. tubal surgery and artificial insemination by donor), because they require multiple repeated visits by the patient.

Infertility management services offered through ARTH's RCH centre

→ Local diagnostic

- Wife: History & physical examination, RPR for syphilis, endometrial biopsy, post coital test
- Husband: History, semen analysis - screening for motility

→ Referrals to Udaipur city for

- Histopathologic examination of EB tissue for ovulation and AFB*
- Confirmatory semen examination
- Hysterosalpingogram
- Testicular biopsy
- Hormonal and immunologic assays*
- Diagnostic laparoscopy

→ Local therapeutic

- Counselling on fertility awareness
- Antibiotics for RTI/STD
- Clomiphene for wife or husband as applicable

→ Additional therapeutic options available at Udaipur city

- Tubal surgery
- Intrauterine insemination
- Artificial insemination by donor (AID)
- Ovulation induction using gonadotrophins

* Samples transported to the city

Over a period of almost 34 months from Nov 1997 to August 2000, 141 cases of childlessness presented at the clinic. Their profile and experiences have already been presented in section

1. Our experience shows that clients endure infertility for many years and that in the absence of modern medical treatment facilities, faith healing seems to be the major mode of health care in this area. Even treatment received from modern practitioners tends to be incomplete. The dropout rate is high – this seems to reflect limited capacity for regular follow up on part of couples. Male participation in infertility management is limited, and women may face the risk of being abandoned by husbands even without any medical care.

17.2 Community education on infertility

The examples given in section 1 highlight the value attached to biological fertility in a patriarchal society where women have always lacked choices in dealing with childlessness. Traditional practices like faith healing, bigamy, divorce and remarriage, as well more modern influences like male migration profoundly affect the extent to which women and men can utilise an infertility service, even if it were readily available. This in no way diminishes the importance of providing an accessible, quality service. On the contrary, it calls for simultaneous education of women and (particularly) men on infertility. Community interventions on infertility must therefore implement a concurrent communication programme covering the following message areas in addition to those for preventing infertility.

Messages on coping with infertility

- *Defining infertility and childlessness – the need for a couple to cohabit for at least a year*
- *Infertility as a problem of both women and men*
- *Early investigation of infertility, but only after adolescence*
- *Seeking treatment from rational sources*
- *Need for follow-up over multiple visits for sequential investigations and management*
- *Cost of treatment and likely success rates*
- *Adoption*

Messages need to inculcate a scientific understanding of the problem of infertility in order to help counter the traditional patriarchal framework that considers it to be solely a woman's problem, and attributes childlessness to supernatural forces that need to be propitiated. For example, in our clinic we have found that patiently discussing the normal physiology and the problem of infertility with the couple (especially the husband) using a model, and showing them live spermatozoa in a semen sample under the microscope help them to think of infertility as a health problem rather than as a curse.

17.5 Summing up...

Infertility being a chronic problem, the low status of women makes it very difficult to handle and manage. On the one hand it carries very severe consequences for women in the form of abandonment and stigmatisation, while on the other hand, success rates are known to be low even in the best of hands.

In situations where male migration for the purpose of employment is high, the incidence of infertility and childlessness might be high because couples do not stay together for long periods, as also from a higher risk of contracting STD, leading to blockage of tubes & vas and adverse pregnancy outcomes.

Even with sophisticated techniques, success rates are low (50% conception rate with 2 years of the best management techniques). Hence, success rates in the primary health care set-up are likely to be lower. But all childlessness is not due to infertility-- a significant proportion of childlessness is due to pregnancy losses from multiple abortions, stillbirths or child deaths, or because the couple does not stay together. Success rates for childlessness due to these "other" reasons is likely to be higher. There is a need to study whether one or few district level institutions can implement a primary health care program for prevention and management of infertility or childlessness, and the feasibility, effectiveness and cost-effectiveness of such an intervention.

Conclusions

1. Determinants of health seeking behaviour

Our experience has revealed that a combination of factors act in concert to determine the health seeking behaviour of women, in meeting their reproductive health needs. They range from autonomy and family support, societal norms and collective experiences, to access and quality of services. We have listed these within a framework of determinants, elements and salient aspects, in table 18.1. We have additionally shown how ARTH's programme responded to specific constraints affecting women's health seeking behaviour. Whereas some of these aspects have already been discussed in preceding sections, we felt that it would be useful to present them together within one format. Our framework represents an organised way of analysing determinants of health seeking behaviour in a rural community, and of exploring how a reproductive health service or programme might respond to it. Health delivery systems have traditionally concentrated their energies on providing infrastructure, supplies and personnel. The chief mechanism for making these inputs gel together has been in-service training courses for health staff, wherein service protocols, MIS and a variety of skills are conveyed to the trainees. We propose that for a health provider, institution, service or programme to be considered as socially responsive and gender-sensitive, staff members and the local community employ a process of topical analysis and action. The process of undertaking such an exercise (with external facilitation to the extent necessary) itself is likely to encourage a service to become more client-friendly. There is evidence that such a client-friendly service becomes more popular, efficient and paying. It therefore makes good business sense.

We however recognise certain limitations in using such an analytical framework:

- a. Those carrying out such analysis would be health providers and managers, not social scientists. Their analysis at places might therefore appear simplistic or disorganised – for example, the visible symptom of a problem might get as much or more weight than the underlying problem itself.
- b. If the exercise is being carried out in a group, the dominant mood – ranging from cynical to overoptimistic, is likely to affect the analysis. A “cynical” group is likely to see solutions as being by and large outside the control of the health delivery system, whereas an “over-optimistic” group might discover several token, “band-aid” solutions that only scratch the surface of the problem.
- c. For a comprehensive analysis to be carried out, issues like autonomy, access and quality need to be assessed at the level of services, programmes, policy and society. Not all problems are amenable to a solution at the local level.

2. Stabilising population: the two-child norm

The National Population Policy affirms the need to popularise and vigorously promote a two-child norm. One can convincingly argue that state determined norms regarding the number of children a couple should have, fundamentally contradict the reproductive health and rights approach articulated at the Cairo Conference⁴⁹, to which India is a signatory. However, even if one were to grudgingly accept the logic of promoting a two-child norm shorn of all pressure and coercion, it is clear that the Policy and the National RCH Programme view it solely in terms of fertility regulation. In areas like Kumbhalgarh, where 70 per cent of women have encountered at least one child death by the time they are into their fifth decade, it takes more than two pregnancies to beget and retain two living children. In an environment in which child survival efforts have not made a significant dent, a child remains vulnerable into its sixth year, during which interval the mother again becomes pregnant. As a policy option, the non-coercive promotion of the two-child norm should therefore be matched by state accountability for child health and nutrition interventions. This state accountability should extend to health insurance for living children and financial compensation in the event of death of a child (irrespective of cause of death), to parents who have accepted irreversible contraception. Fixing a substantial amount by way of compensation would not only help the affected parents, but also encourage the health system to become more efficient, since ignoring child-deaths would prove far more expensive than the proper implementation of measures to prevent them.

An alternative for women living in such “child-unfriendly” environments is to offer them long-term reversible contraception. Currently available technologies include intrauterine devices like the Copper-T 380A and contraceptive implants. Pending the development of more contraceptive options (including those for men), we propose that the Copper-T 380A be given a trial by the national programme. Another dimension of women’s need for limiting the number of their children is that their need might change if the family breaks down. Dissolution of one marriage followed by customary remarriage (*nata*) is a real possibility for many rural women in southern Rajasthan. In a new marriage, and especially if she has lost custody of her children, a woman might need to again bear children – an impossibility if she has been sterilised. Hence again, there is need for a reversible alternative to sterilisation.

3. Community based distribution of contraceptives

Our experience has also highlighted the high demand on part of poor and illiterate women living in an interior tribal area, for regulating their fertility. This was seen in their active response to the increased availability of contraception and abortion services. Community based distribution (CBD) was one measure for improving access to contraception. Several developing countries including India have positive experiences with CBD. However, despite its demonstrated feasibility in rural areas, the government programme continues to rely on full time health workers for distributing non-clinical spacing contraceptives⁵⁰. Women living in interior rural areas are rarely able to predict the arrival of these health workers in their

⁴⁹ Programme of Action of the International Conference on Population and Development, Cairo, 1994

⁵⁰ As a parallel distribution channel, the government supported social marketing programme reaches only urban and peri-urban areas

village, this being necessary for sustaining contraceptive use. The proportion of reversible contraceptive users has declined in the nineties -- this has been borne out by National Family Health Survey reports (1993 and 1999). Community Based Distribution by village level agents has been introduced either through time-bound projects or by NGOs, but there have been few attempts at institutionalising it. In 1991, the Government of Rajasthan piloted Jan Mangal – a village level condom and pill distribution programme using volunteer couples – in two districts, and then extended it to all districts in 1997, using donor funds. Documented studies as well our own experience have highlighted the need for making substantial investments in the training, supervision and referral support of CBD agents, to ensure quality of care, especially continuity of use. By relying almost entirely on existing government health staff with few additional inputs, the Jan Mangal programme has in effect invested little on training, supervision and support. Given its low-tech nature, there is scope for non-governmental agencies to manage CBD programmes like Jan Mangal. While on the one hand the government programme has not made the right moves, most NGOs for their part continue to distrust the government's agenda and steer clear of the issue of contraception. Hence even though rural and tribal women have clearly articulated a (hitherto unmet) need for contraception, the state health system and NGOs persist with their positions, while practical approaches like CBD are either ignored or given half-hearted treatment.

4. A greater role for nurse-midwives

The lack of qualified physicians in rural areas of Rajasthan has led to a void that has been filled by traditional healers, unqualified village practitioners ("Bengali doctors" or RMPs) and practising paramedics. The poor state of infrastructure and amenities in villages and small towns does not attract government doctors to interior primary health centres, except for the intrepid few who are willing and able to establish a private practice⁵¹. Besides, virtually no private doctor works in such areas. This situation is expected to persist for at least a few more decades, unless recent moves to give panchayats greater control over health institutions bear fruit. Even where doctors or ayurvedic physicians are available, they are mostly male and less oriented towards providing reproductive health care in a sensitive manner. There is a large social distance between male physicians and poor, illiterate or tribal women. The RCH programme needs to examine ways of delivering reproductive and child health services in such situations. Two approaches have been attempted – the holding of ad hoc mobile RCH camps, and the training of traditional birth attendants. Both are severely limited in terms of their ability to reduce morbidity and mortality.

We therefore advocate greater investment in the nurse-midwife cadre, as providers of health services in rural areas of north India. In our field area we have been able to demonstrate that with proper training, equipment, supplies and support, nurse-midwives can run an institutional delivery facility, provide obstetric first aid, carry out timely referrals, provide contraceptives and manage childhood ailments, while assisting physicians with safe abortion.

⁵¹ In Rajasthan, government doctors are allowed to practice from their homes after duty hours. For those doctors who are highly "practice-oriented", many if not most working hours come to be associated with private practice. Admission or treatment in the government health centre or hospital also become linked to private consultations at the doctor's house – most rural patients acquiesce in this practice, believing it to be the norm. However, in small towns or large villages where many PHCs are located, the community's paying capacity may be insufficient to sustain a doctor's private practice. The availability of doctors in such "remote" PHCs tends to be irregular.

Apart from training, professional guidance and supportive supervision, measures such as providing midwives an escort with two-wheeler mobility, pairing them at the health centre, and providing them assistants have contributed to their effectiveness. The most critical difference that nurse-midwives can make is in ensuing skilled attendance at the time of delivery in the home or institution. Attendance at the time of delivery by a skilled person such as a doctor or midwife is considered a key input for reducing the high maternal mortality rates prevailing in states like Rajasthan. Apart from having less social distance from rural women, nurse-midwives of rural origin are more likely to adapt to life in an interior area. The RCH programme may therefore explore the possibility of upgrading the roles of locally resident LHVs or ANMs so that they take on the leadership of “remote” primary health centres. Currently in the absence of doctors, male pharmacists or health workers play this role, without much benefit to reproductive and child health.

5. Manual vacuum aspiration for safe abortion

There is consensus that despite providing a framework for carrying out safe and legal abortions, the MTP Act of 1972 and the Rules of 1975 have created a restrictive environment for providers and institutions. The convergence of two agendas – reduction of maternal mortality and contribution to population control, facilitated the passage of the Act, although the latter was not acknowledged as such. The MTP Act was formulated at a time when sharp curettage (D&C) was the available technologic option for terminating a pregnancy. In today’s environment, newer technologies, chiefly electrical or manual vacuum aspiration and abortion inducing drugs have become well established. At the same time, access to abortion has been acknowledged not only as a women’s health priority, but also as a reproductive right. In our field area, we have demonstrated that safe, legal and low-cost abortion services can be provided in a low resource setting that lacks piped water and regular electric supply, by using manual vacuum aspiration (MVA). Several conditions however operate – the service is periodic, the providing physician must be available on a regular basis, locally residential midwives must be able to back up and make referrals should they (occasionally) become necessary, and only first trimester procedures can be carried out. Nevertheless, women now have an alternative to clandestine abortions at relatively low cost. We found that over fifty per cent of women adopted a contraceptive after the abortion procedure. For several other women, the MVA syringe allowed us to conveniently carry out a menstrual regulation just before inserting a Copper-T, without having to wait to confirm or rule out pregnancy. The technique therefore additionally facilitates access to contraceptive services.

Dilatation and curettage (D&C) or sharp curettage has for long been the preferred surgical method for carrying out early and mid-trimester abortions in India. There are several (gynaecologic) indications besides pregnancy termination, for performing a D&C. This makes it less stigmatising for a woman to undergo the procedure, while also making it convenient for unregistered facilities to camouflage the fact that they offer abortion services. Even though D&C requires inpatient stay and anaesthesia, and is accompanied by a higher rate of complications, it has been popular in several countries including those of Eastern Europe, where it is the method of choice. Meanwhile, vacuum aspiration has steadily gained in popularity after the late seventies, with the advent of electrical suction technology. Over the years, abortion providers, including those who work in large training institutions, have become used to and therefore loyal to techniques like D&C and electric suction. During this period quality MVA instruments have not been freely available in India, and manual vacuum

aspiration has not been able to move beyond serving as a “menstrual regulation” technique for 6 to 8 week pregnancies. We therefore recommend that the government consider large-scale introduction of MVA through rural primary health care systems, as a method of choice for first-trimester abortion. Simultaneously the relevant rules governing certification of abortion facilities need be liberalised, so that an appropriate low-tech and low-cost service can become freely available.

Table 18.1: Salient determinants of women's health-seeking behaviour and the response of ARTH's field service programme

Determinant	Salient aspects in project area	How ARTH's field service programme responded
Autonomy and support	<i>Access to family resources</i>	
	1. Women have little control over household income. 2. Their marital families expect their parents or brothers to bear the cost of health care.	The programme offered low cost or free services to all, credit and further subsidy to some, especially poorer women and adolescents.
	<i>Mobility</i>	
	Women may not have permission or family approval to travel alone or visit a clinic, especially for the first time	1. Village level women volunteers accompanied women and adolescents to the clinic for services. For this, they received a nominal service charge 2. Providers tried to minimize the number of visits by each client
	<i>Family decision making norms</i>	
	Women who unilaterally seek RH services (especially contraception or abortion) might encounter severe family disapproval or violence	1. Women were assured that spousal approval was not a pre-requisite and were allowed greater access to subsidy if they had made a unilateral decision 2. Strict confidentiality was maintained by all clinic and outreach staff 3. Consent procedures avoided husband's consent even when readily available 4. Staff facilitated switching and discontinuation of contraceptives on demand
Societal norms	<i>Family support</i>	
	Male migration leaves many women socially and financially unsupported	Apart from village (women) volunteers accompanying women seeking services, the programme was unable to satisfactorily address this issue
	Poor male participation in RH service utilization by women and children	1. Targeted community education of expectant fathers and fathers of young infants (0-2 years) promoted male participation. Men were specifically encouraged to accompany their wives when they sought care. 2. Adolescent boys' educational camps promoted male participation in reproductive health care
	<i>Cultural practices</i>	
	1. Early cohabitation ("gauna") is followed by high teenage pregnancy rate. Pregnancy before gauna is possible but stigmatised 2. Fertility intentions of women planning to remarry (through "nata") may change rapidly. Nata is commoner among infertile couples, and is a risk factor for spread of STD or HIV	1. Community education focused on delaying gauna to avert teenage childbearing (limited success), while CBD agents discreetly distributed contraceptives to adolescents before and after gauna 2. Contraceptive counselling explored current or impending remarriage ("nata"). Investigations and counselling for infertility were based on the multiple partnerships of husband and wife, while STD/ HIV clients were also counselled about spread to "nata" partners

Determ -inant	Salient aspects in project area	How ARTH's field service programme responded
Societal norms	<p><i>Social expectations</i></p> <ol style="list-style-type: none"> 1. Families expect newlywed (teenage) couples to begin childbearing as soon as possible after gauna 2. Families disapprove contraceptive use by women before they have borne 2-3 children or by women out of wedlock 3. Preference for at least one to two sons 	<ol style="list-style-type: none"> 1. Outreach activities promoted contraception for delaying teenage pregnancy 2. Outreach and clinical interventions promoted birth spacing as a health measure for women and children, parents seeking child health or other services were routinely counselled about spacing 3. The programme was however unable to address the issue of son preference in a satisfactory manner
	<p><i>Gender roles and division of work</i></p> <p>Women face a heavy burden of domestic and agricultural work, wage labour and child-rearing</p>	<p>Men's & adolescent boys' education camps addressed the issue of gender division of work. Messages encouraged men to share in household tasks (including doing "women's work"), especially when their wives were pregnant. Similarly, fathers were encouraged to directly care for feeding, immunisation and treatment of infants by male educators. The impact if any, of these messages could not be assessed.</p>
Collective experience	<p><i>Empirical evidence from the experience of others</i></p> <ol style="list-style-type: none"> 1. There is a latent period during which a critical mass of positive experience accumulates in the community about using RH services. Service utilisation escalates rapidly after that stage. 2. Stories of individual successes (e.g. saving a woman with a serious maternal complication or pregnancy after long years of infertility) or mishaps (e.g. death of children after sterilization or laparotomy for misplaced Copper-T) tend to have a disproportionate impact on service utilization 	<ol style="list-style-type: none"> 1. The programme ensured regular services even during the initial years when there were relatively few clients. 2. The programme encountered several individual success stories. These were used for reinforcing the morale of staff and volunteers and during community education. On the other hand, negative experiences were minimized by avoiding clinical risks. In addition, follow up and free services were provided to (two) women who came with complications.
	<p><i>Information sharing patterns</i></p> <p>Experiences with seeking RH services spread along a village level "grapevine", and can be facilitated by interpersonal communication. Women may share their experience with contraception, abortion and infertility, thereby motivating others to seek services.</p>	<ol style="list-style-type: none"> 1. Volunteers and field workers encouraged women to find out about other women's experiences with a service in their own hamlets. 2. Satisfied users in turn were encouraged to share their experiences locally, unless they wished to keep it confidential

Determ -inant	Salient aspects in project area	How ARTH's field service programme responded
Access	<p><i>Availability</i></p> <ol style="list-style-type: none"> 1. Proximity of service providers and health facilities enables women to use services conveniently. 2. If women are able to predict the availability of a service provider at a given time and place, they are more willing to travel a distance to seek services 	<ol style="list-style-type: none"> 1. The RCH clinic was located in a road-linked central village. To further increase availability, village level services were offered through community-based distribution and midwife-run field clinics. 2. The programme provided regular, periodic clinic and outreach services on fixed days and at fixed venues. Providers were available on all days (except few local holidays). Considerable investment was made in ensuring day and night availability of nurse-midwives for conducting deliveries.
	<p><i>Poverty and cost of services</i></p> <p>High direct costs discourage women, especially adolescents and those belonging to tribal communities</p>	<p>All services were subsidized. Tribal community women, adolescent girls and single women were additionally offered credit or free services as per discretion and capacity. The programme also introduced differential pricing during the third year of drought, to allow cross subsidy for tribal clients. For emergency obstetric care, poor women received free transport and some medicines.</p>
	<p>High indirect costs resulting from wage loss and lack of family support for child-care discourage women from seeking services, especially referral care</p>	<p>The programme reduced indirect costs by offering outreach services and reducing client turnaround time. For lab investigations, samples collected on field were transported to the city whenever feasible. For those who nevertheless had to travel to the city for tests, arrangements were made with 2-3 labs for quicker and cheaper services. For obstetric emergencies, a nurse-midwife and male worker arranged transport and accompanied women to hospital. All these interventions helped to reduce unproductive treatment time</p>
	<p>Arbitrary costs charged by providers, especially for services like infertility, abortion or emergency care deter poor families from seeking services. Families remain uncertain about the likely total cost at a private or government facility, since the actual cost of treatment might greatly exceed the publicized cost</p>	<p>The programme fixed and publicized the cost of major services, so that clients knew how much money to bring along. The programme also negotiated with a few laboratories in Udaipur, to fix the cost of investigations at discounted rates. In case of women admitted to the government hospital for emergency obstetric care, one staff member kept regular contact with the family, tracked the expenditure, helped them avail free treatment schemes and confronted hospital staff in case they demanded wrongful payments. These measures especially benefited illiterate, tribal patients and families.</p>

Determ-inant	Salient aspects in project area	How ARTH's field service programme responded
Access	<p><i>Social distance</i></p> <p>An aloof, authoritarian or judgemental attitude on part of providers deters women. This is a particular problem in a society stratified by caste, gender and feudal hierarchies.</p>	<p>ARTH staff members were oriented about the need to maintain a sensitive, non-judgemental and respectful approach to women, especially if they appeared vulnerable or low in the family hierarchy. Attempts by relatives or other privileged clients to sideline such women were firmly resisted by clinic staff. Women's views were elicited even in the presence of male relatives.</p>
	<p><i>Technical quality & effectiveness</i></p> <p>The outcome of a RH service depends on how appropriate, safe and effective are selected technologies in a low-resource, rural setting, and whether service guidelines are being followed. These in turn affect user satisfaction.</p>	<p>1. We employed appropriate technology as far as possible. This included the Copper-T 380A as a long term reversible contraceptive, manual vacuum aspiration for early abortion, wide use of urine pregnancy test kits, pre-sterilisation of instruments, and home based maternal cards.</p> <p>2. Staff were trained and provided service guidelines.</p>
Quality	<p><i>Informed decision making</i></p> <p>Many women fear that a service provider will skillfully manipulate them into accepting a contraceptive, and/or will prevent them from later discontinuing it. Women who can choose their own RH options therefore trust the provider more.</p>	<p>The programme made sure that women with RH needs (especially contraception and abortion) were counselled and allowed to make their choice. No mention was made of the "two-child norm" during counselling. Women were also informed about deficiencies or potential side-effects of methods. Copper-T users were offered "removal on demand", while method switching was not discouraged.</p>
	<p><i>Efficiency</i></p> <p>Long waiting times deter women from using a service – their absence from home affects domestic duties, and may even be resented by family members. Women may not retain old case papers (sometimes to conceal them from the family) – this breaks continuity of treatment.</p>	<p>Clinic services were organised to minimise waiting times before consultation, procedures and dispensing. In addition, a back-up clinic record was introduced so that women without old papers could be adequately treated</p>

Determ -inant	Salient aspects in project area	How ARTH's field service programme responded
Individual perceptions & values	<p><i>Belief systems</i></p> <p>Women and their families follow a traditional framework in dealing with several conditions like pregnancy, childbirth, infertility and childhood illness. Some of these may at times conflict with modern treatment approaches.</p>	<p>Qualitative research and ongoing field experience generated information on traditional belief systems. The communication effort factored these beliefs into messages – beneficial beliefs were encouraged while “irrational” beliefs were either confronted or sidestepped. For example, measles vaccine was projected as propitiating “mataji” (the mother goddess). As long as safety was not compromised, cultural preferences were respected while providing services</p>
	<p><i>Self confidence</i></p> <p>Families might attribute ill health to forces beyond their control, and may therefore not be willing to invest in preventive measures like immunisation, antenatal care or contraception.</p>	<p>Staff and volunteers emphasized the link between prevention and health. While stepping up communication, access to preventive services was improved and cost minimised. Village volunteers received a service charge for providing contraceptives and for accompanying women to seek antenatal care. Local idioms and positive examples were used to give women confidence that their health and fertility were amenable to their own control. Lastly, panchayats and gram sabha meetings were persuaded to adopt resolution promoting antenatal care and safe delivery, and to encourage women to seek care.</p>
	<p><i>Fears and anxieties</i></p> <p>Women may fear modern technology in alien surroundings – for example, several women refused speculum examinations or pelvic procedures, especially in the early years. Many women fear losing a child after undergoing sterilisation, and hence tend to avoid it.</p>	<p>The programme relied on village level volunteers and satisfied users to accompany women to the clinic. Women refusing examination were treated gently and not criticised. Women were offered reversible long acting contraception (the Copper-T 380A) as an option to sterilization.</p>
	<p><i>Faith in provider/ institution</i></p> <p>Provider credibility and charisma guide women in seeking treatment</p>	<p>The programme anticipated that over time, an honest, humane and effective service would generate its own goodwill. This encouraged providers to persist, over the initial period. A fallout of the commitment of individual providers is that their reputation discourages women from seeking care from alternate persons, should they become unavailable for any reason.</p>

